

NATIONAL FISHERMAN

JANUARY
1957



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You'll find no ravelling in these soft handling, easy-to-splice ropes and twines. *Columbian* Nylon cordage is "Stabilized" by an exclusive patented process pioneered by *Columbian* to prevent untwisting and loss of shape. No lost yardage due to "fluffing"—even end-knots are made with ease!

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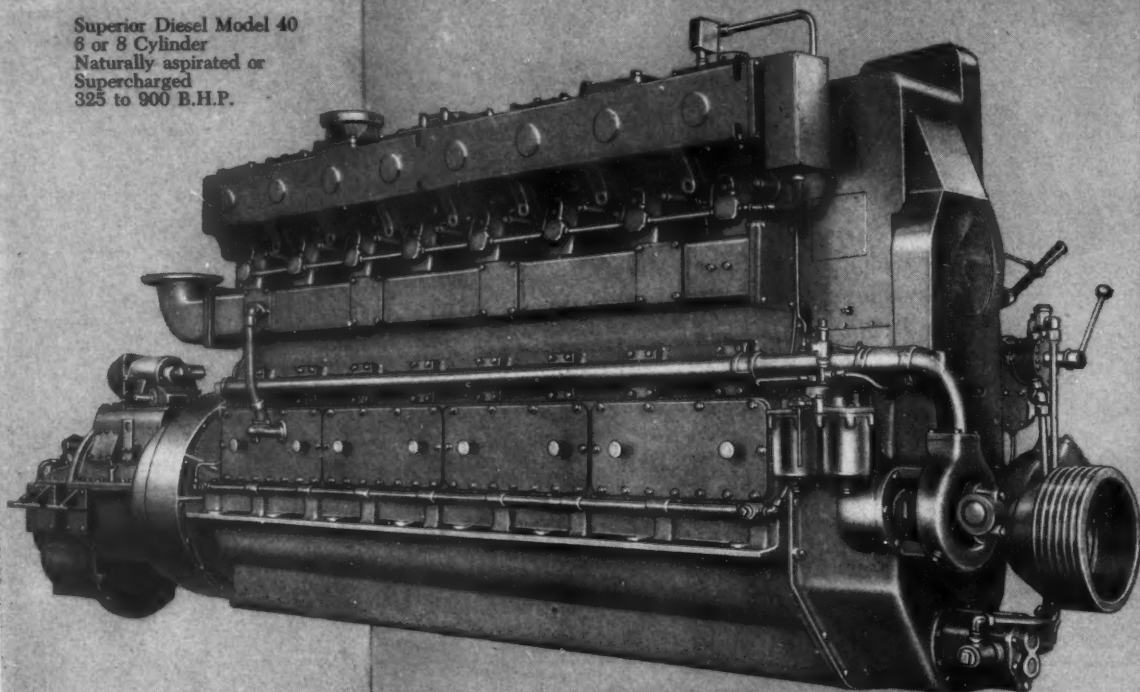
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Superior Diesel Model 40
6 or 8 Cylinder
Naturally aspirated or
Supercharged
325 to 900 B.H.P.



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325 to 900 B.H.P.

MODEL 40 Superior Diesel
provides greater dependability and
the lowest operating costs!

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FUEL SAVING COMBUSTION SYSTEM saves up to 35% fuel consumption compared with other engines in very similar hulls. Improved air intake and scavenging, combined with most ideally designed combustion chamber, make these big fuel savings possible.

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Whether you're choosing a diesel for a new boat or repowering, you can rely on the Superior Model 40 for longer service life, lowest maintenance, fuel, and lubrication costs! Get complete details at your nearest sales and service office listed below.



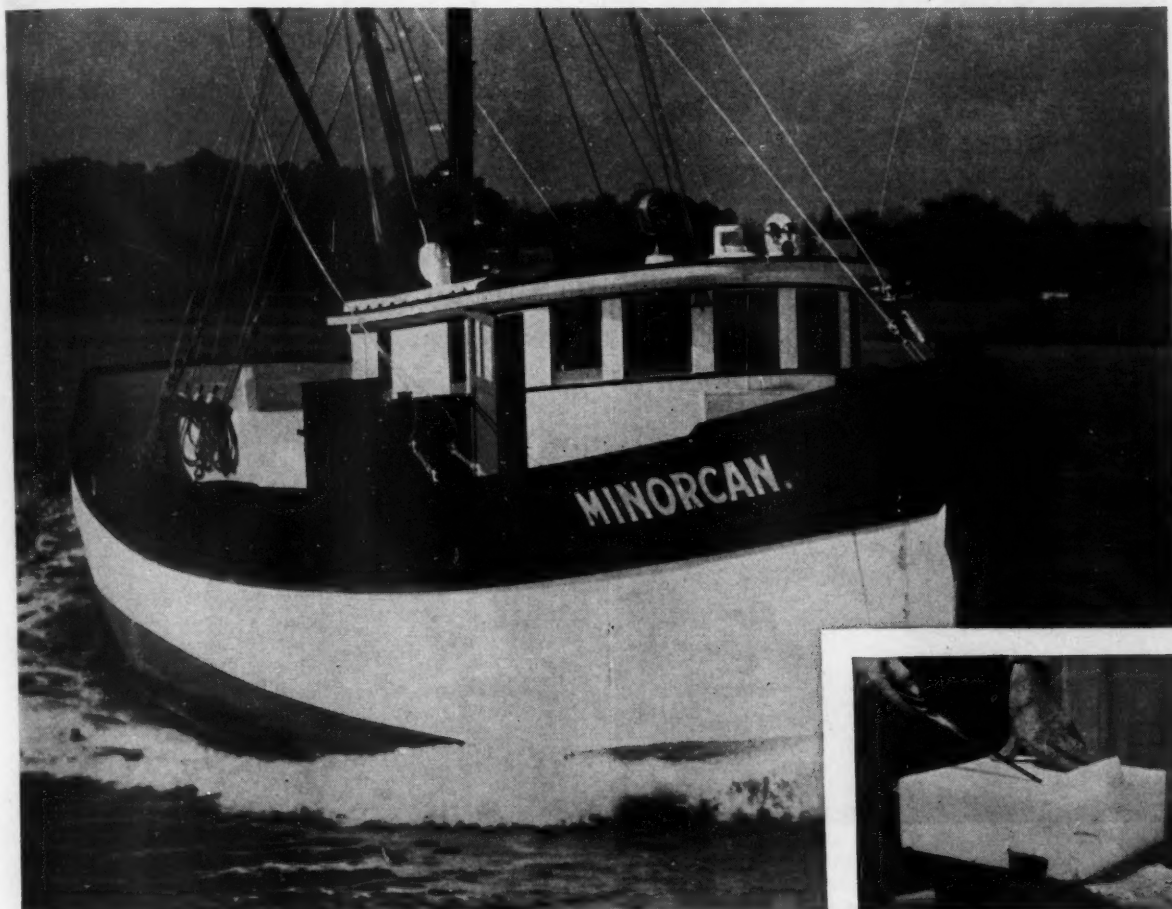
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DOW



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EXIDE-IRONCLAD BATTERIES**

Being interviewed is H. A. Fuggiti, Acting Senior Development Engineer

"Here's where the heavy slugs of power come from"

At the Exide Laboratories — **Reporter:** Just exactly what part of the battery is that, Mr. Fuggiti?

Fuggiti: This is the Exide-Ironclad positive plate. And in any battery, power reserve is governed by positive plate area.

Reporter: Then do you mean that Exide-Ironclad Batteries have *more* positive plate area?

Fuggiti: Exactly. You can see that here. The cylindrical power tubes are arranged in a row. So the semicircular sides give an effective plate area one-third more than the plate size.

Reporter: How does that increase power reserve?

Fuggiti: Because there's a bigger working

surface of battery plate exposed to the electrolyte. Power response is faster.

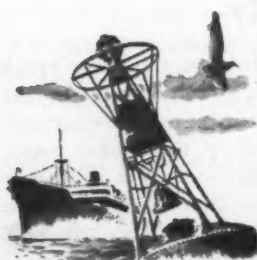
Reporter: What does this mean in battery performance?

Fuggiti: It means the battery can provide power to spare for peak power loads as well as a dependable source for continuous loads.

Reporter: Obviously this is an important feature of the Exide-Ironclad Batteries.

Fuggiti: Yes it is, but it's just one of many engineering details that contribute to their long life and high capacity.

Note to battery users: Whenever you order heavy duty batteries or the equipment that requires them, be sure to specify Exide-Ironclad. For detailed bulletin, write Exide Industrial Division, The Electric Storage Battery Co., Philadelphia 2, Pa.



THE ELECTRIC STORAGE BATTERY COMPANY **Exide®**

NATIONAL FISHERMAN - JANUARY, 1957

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NATIONAL FISHERMAN

The Fishing Industry Magazine
Formerly Atlantic Fisherman, Established 1919.

Opportunities for Industry Improvement

While President Eisenhower's rejection of an increase in import duties on groundfish fillets was a disappointment to the industry, it was not entirely unexpected. Two years ago the President took similar action, and with the present increased tension in International affairs, it is understandable that he would be reluctant to make a decision which might jeopardize foreign relationships.

Some members of the industry have admitted that even with the requested increase in duties, the flow of imports might not be curtailed. It has been indicated further that an increase in tariffs would not solve all the problems of the industry.

The 50 percent raise in groundfish fillet duties, unanimously recommended by the Tariff Commission, would have increased present duties from 1 1/2 to 2.81 cents per pound on imports up to the first 15 percent of the previous year's consumption, and from 2 1/2 to 3.75 cents per pound on amounts over this percentage. With foreign fish commanding a price of 21 to 22 cents per pound, the 50 percent increase in duties would raise the price of foreign fish only about 5 percent.

In announcing his decision, Eisenhower said he was "not persuaded that, on balance, the proposed duty increase would constitute a sound step in resolving" the difficulties confronting the domestic groundfish industry. He asked that "bold and vigorous steps" be taken now to provide root solutions for the industry's problems.

The President pointed to recently

enacted Federal legislation that provides increased funds for research and market development programs, educational grants, and the \$10 million revolving loan fund for vessel and equipment improvement. He said the Administration's examination into the industry's problems has continued beyond the enactment of these laws, and looks toward the development of additional opportunities for promoting the well-being and sound management of commercial fisheries resources.

After three unsuccessful attempts to get higher tariffs on fish, it is time for the industry to use a new approach in meeting its problems. At best, tariffs and import quotas on fish would provide only limited relief.

The most important requisite in any industry is to have sound, business-like, efficient operation. It is time for the fishing industry to carefully examine itself—to find out if its various functions are being performed in best possible manner.

Is full advantage being taken of the scientific advances in the field? Can better maintenance and safety programs reduce insurance cost? Are modern methods of stowing and unloading fish being used? Are boats of proper design and size for the fishing they do? Is the size of the crew in proper ratio to manpower needs and expectancy of earnings? Can productive capacity and investment return on fishing boats be increased by shorter lay-over in port?

In many cases the answers to these and similar questions undoubtedly will reveal some real opportunities for improvement.

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B.F. Goodrich



Spongex Floats carry a lot of weight in the Gulf

"Spongex® floats give us what amounts to 300% greater protection from loss of fish . . . nets and time", says Mr. George Castigliola, owner of the *Lois Kaye*, 128' all-purpose refrigerated flagship of the Castigliola Shrimp Co., Pascagoula, Mississippi.

"We use Spongex floats because we must have floats that hold ½ mile of seine net plus 25 tons of fish in the stiff gulf tide.

"This means", he continued, "our floats must have a buoyancy greater than the ordinary fishing net. They must be of the type to carry weight . . . compounded with a minimum of 100,000 fish at a time. So naturally the less water absorption, the better. We find all these qualities in Spongex floats plus the fact the 20 boys who work the purse boats find the nets 50% easier to handle.

"Net fishing is tricky business. It's easy to lose a net without the added

buoyancy of Spongex floats. Once a net goes under, ordinary floats become waterlogged making it impossible to bring the net to the surface.

Mr. Castigliola concluded, "We are now planning a boat that will carry 1,000,000 fish at a trip. It is obvious we will look to B. F. Goodrich floats to buoy-up the larger nets we will need."

Captain Oliver W. Hunnings of the "*Lois Kaye*" says, "Spongex floats are stronger, longer-lived, and more buoyant than the old-fashioned wood or cork floats. Wood floats grow heavier as they absorb water, and make it tough for the men to haul in the nets during each set. We could only expect 3 seasons of use from wood floats, with the floats being relocated on the net each season . . . closer and closer to the purse boats as they became more and more waterlogged. These Spongex floats have been in use for two seasons and are still



in their original positions. The Spongex floats will also support a heavier load in the nets, since they are more buoyant than wood, thus enabling us to catch more fish in a single set than we would in the past."

For more information write B. F. Goodrich Sponge Products, a division of The B. F. Goodrich Company, 392 Derby Place, Shelton, Connecticut.

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NATIONAL FISHERMAN - JANUARY, 1957

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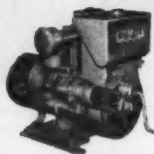
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Inquiries are invited from representative dealers.

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- ★ Available as portable power units, generating plants, pumping units, or for marine propulsion

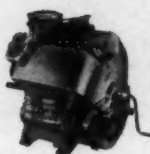
6-101



Model WC-1,
one-cylinder,
water-cooled,
4-cycle, 6 HP
@ 1800 RPM.
Wt.: 220 lbs.



Model AIQ-3KW,
one-cylinder,
air-cooled,
4-cycle, 3KW
@ 1800 RPM.
6-7 HP



Model AC-2,
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4-cycle, 14 HP
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Model AC-1,
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Wt.: 220 lbs.

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FLEET ARE EQUIPPED WITH

Surrette

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**Gulf
Lagoon
Fish Co.**

Lee Gallaway, owner-operator of Gulf Lagoon Fish Co., Gulf Shores, Ala., has recently added the "Coral Sea" to his fleet of sixteen trawlers . . . all equipped with SURRETTE BATTERIES.

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BUILDERS who are quality-minded choose SURRETTE and more of them recommend Surrette Marine Batteries than any other make.

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3. SURRETTES are especially designed for MARINE DUTY . . . not auto construction converted to a marine case.
4. SURRETTES make other brands expensive by comparison when the extra dependability, extra capacity and longer life are taken into consideration.

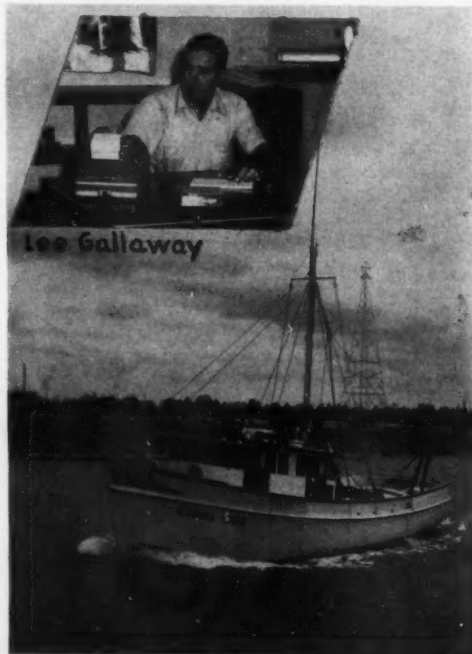
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MARINE BATTERIES

Surrette Storage Battery Company, Inc., Jefferson Avenue, Salem, Mass.

► Albacore Imports Investigation

Treasury Department has instructed Customs Field Officers to withhold appraisement of entries of frozen whole albacore from Japan pending investigation to determine whether albacore is being sold in United States at less than fair value. Under Antidumping Act, a determination of sales in United States at less than fair value would require reference of case to Tariff Commission, which would consider whether American industry was being injured. Both dumping price and injury must be shown to justify a finding of dumping under the law.

If both of these findings are made, Tariff Commission would determine amount of countervailing duty that would be warranted, and would recommend to the President that he establish such a special tariff.

► Territorial Water Limits

Action taken on report of International Law Commission, by sixth committee of United Nations, makes it clear that no early International agreement on breadth of territorial sea is in sight. The sixth committee adopted a resolution which almost certainly will be approved by General Assembly, and calls for an International conference to be held in Rome in March and April of 1958 to "examine the Law of the Sea."

Debate on breadth of territorial sea revealed that U. N. countries are a long way apart on this question at present. Three miles is supported by United States, United Kingdom and France, with greater breadth and right for individual states to set their own limits being supported by Latin American countries and U.S.S.R. Canada made the only specific compromise proposal—a contiguous zone of 12 miles which would give coastal state exclusive use of and control of fisheries within this zone.

► Sign Pink Salmon Agreement

Canada and United States wrote a new chapter in cooperative fisheries management, with signing on December 28 of an agreement providing for joint control over pink salmon stocks of Juan de Fuca Straits—Fraser River area.

State Department reports that new agreement amends 1930 Sockeye Salmon Convention in number of ways. Its most important change is to place pink salmon of Fraser River System under jurisdiction of International Pacific Salmon Fisheries Commission.

► FGWS Reorganization in Effect

Secretary of Interior Fred A. Seaton has asked the recently reorganized United States Fish and Wildlife Service to develop blueprint for greatly broadened conservation program for fish and wildlife resources. "The challenge of soundly managing our commercial fishery resources to

assure a continued harvest must be met head-on," Secretary Seaton declared.

A special task force representing the Bureau of Commercial Fisheries will begin work shortly on plan of action to carry out the long-range effort. This task force is composed of: Oscar E. Sette, Chief, Ocean Research, Stanford, Calif., chairman; Ernest Premetz, Fishery Marketing Specialist, Lorain, Ohio; Donald L. McKernan, Administrator, Alaska Commercial Fisheries; Harvey L. Moore, Assistant Chief, Section of Marine Fisheries, Branch of Fishery Biology; and R. T. Whiteleather, Assistant Chief, Branch of Commercial Fisheries.

The President on January 1 appointed Ross L. Leffler to be first Assistant Secretary of Interior for Fish and Wildlife. Mr. Leffler has had considerable experience in the conservation field, having been appointed a member of the Pennsylvania Game Commission in 1927. He served as a member of the Commission for 28 years, 16 years as president.

► Appeal Trade Agreements Decision

California Fish Cannery Assoc. is appealing recent U. S. Customs Court decision, which ruled against industry's claim that trade agreement laws under which Government has reduced import tariffs on tuna are unconstitutional.

Tuna industry attacked trade agreement laws on grounds that State Department can negotiate trade agreements without submitting them for ratification by Congress. Industry wants law changed so that any such agreements would have to be approved by Senate.

► Seeks Additional Lamprey Funds

Congressman Henry S. Reuss of Wisconsin recently urged President Eisenhower's budget chief to ask Congress for enough money to carry forward at full speed the all-out extermination campaign begun last year against the sea lamprey in the upper Great Lakes. Reuss asked that \$1 million be provided for elimination of lamprey during next fiscal year, starting July 1, 1957.

► Big Gain in Frozen Food Sales

Frozen food sales in 1956 are estimated to be up 35 percent from 1954. Fish sticks were leading fishery item carried by three groups of stores covered—supermarkets, superettes and small stores. Of reporting markets, 99 percent had fish sticks for sale.

Uncooked shrimp were on sale by 81 percent of the three types of stores. Uncooked fillets of all kinds

were third leading item, and were found in 73 percent of the outlets. Tuna pies and fried shrimp were available in 61 percent of the stores. Frozen lobster tails, fried scallops and fried fillets were on sale in less than 50 percent of all the stores.

► VA Increases Use of Fish

Veterans Administration will increase use of frozen fish fillets in its 173 hospitals by 330,000 pounds per year, at an estimated cost of \$132,000, according to Dr. Francis B. Carroll, VA's Area Medical Director at Boston. The extra usage is expected to result from more frequent offerings of fillets on selective menus, which give hospital patients a choice of food.

Last year (fiscal 1956), nearly three million pounds of fish and other seafoods costing more than \$1,000,000 were consumed by VA's daily average patient load of about 110,000 veterans.

► Bills Affecting Gulf Shrimpers

Congressman Thompson of Louisiana has introduced a bill to provide that one floating station shall be maintained at all times in Gulf of Mexico to provide storm warnings for States bordering on this body of water. He also introduced a bill to provide for an ad valorem duty on importation of shrimp.

► Gain in Cold Storage Holdings

Cold storage holdings of edible fishery products on December 1 were about 12 million pounds greater than year earlier. Higher holdings were mostly in fillets of cod, haddock, and ocean perch, halibut, and salmon. Lower holdings were in flounders, sole and whiting.

► Ample Supplies of Fish

Supplies of fishery products in February will be ample. There will be liberal stocks of frozen fillets of haddock and ocean perch, while halibut steaks will be available in ample supply. A promising product of special appeal is Dungeness crabs frozen in individual vacuum plastic bags.

► Study Nutritive Value of Fish

In a move to keep pace with growing demands for diets which are both nutritive and appetizing, and to assure fish its rightful place in them, the Fish and Wildlife Service has inaugurated a continuous study of protein, fat, mineral and vitamin content of all species of fish used for food. Data obtained also will serve as a means of determining probable frozen storage life of processed fish, yield after processing and potential value of waste products.

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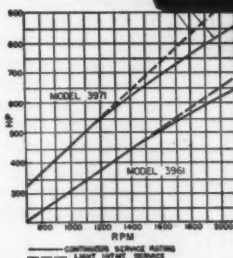
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THE SNOW-NABSTEDT GEAR CORP., HAMDEN, CONN.



NATIONAL FISHERMAN - JANUARY, 1957

Making Fishing Boats More Seaworthy

Francis Minot analyzes the problems of stability
and buoyancy as related to trawling and loading*

THERE is perhaps no service on the high seas in which the element of seaworthiness is more vital than in fishing. There are a variety of reasons, of which the following are most noteworthy:

1. The work of the offshore fishing vessel is carried on in the open ocean where even the largest—excepting whaling and a few other factory ships—is small when measured against the prevailing sea conditions. To put it a little differently, the sea is almost always rough for the small ship.

2. The fishing vessel, in contrast to the merchant ship, must maintain its position and, if possible, continue to fish, wherever fish are found just so long as wind and sea permit.

3. The fishing vessel must not only be highly seaworthy—stable, watertight and amply powered—she must also provide as steady a platform as possible from which to conduct fishing operations, and tolerable living conditions over a considerable period of time.

4. The fishing vessel must load cargo at sea; in all but a very few modern vessels of radical design, loading still requires the opening of hatches or scuttles for short periods whenever fish are taken aboard. If decks are flooded with hatches open, a dangerous volume of water can enter the fish holds and seriously reduce the vessel's stability and buoyancy.

5. Conditions of loading, displacement and trim alter continuously and often considerably through the exchange of fuel and ice for fish, and through occasional heavy icing of rigging and superstructure on winter voyages in high latitudes, with frequently adverse effect on stability.

The problem of seaworthiness from the common point of view of the fisherman and the fishing vessel is two-fold: on the one hand, the problem is to determine what are the limiting capabilities of the vessel in weather; on the other hand, what can be done to raise these limits. The solution of these problems will realize additional fishing time.

Current research in the sea-keeping aspects of merchant ships indicates that it may soon be possible to define the upper limits of operational ability with respect to weather, and at the same time, current research in design features holds great promise for the extension of these limits.

Engineering Advice Desirable

What is really needed for the development of better fishing vessels is that the naval architect and shipbuilder be enabled to apply all of the knowledge now available to them to fishing vessel design and construction. The argument is not infrequently heard that the fishing vessel owner cannot afford the luxury of costly engineering advice. In reality, the best professional guidance is no luxury. The owner cannot risk the creation of his expensive vessel without the most skilled and experienced planning.

Expressed in simple terms, the vessel which is cheapest to build and operate and which can catch and deliver the most fish in the shortest time is the most profitable, assuming of course, that a satisfactory price is received. Now the overall efficiency of the fishing vessel is determined in part by the time which is spent in the actual operation of fishing, as distinguished from time spent on the outward and inward voyages, in shifting grounds, and in port.

The time spent in fishing depends to a considerable extent on the degree of wind and weather in which the vessel can fish effectively. Hence improvements in seaworthiness which extend fishing capabilities are one way of increasing fishing efficiency as well as safety.

Factors Affecting Trawler Operation

The trawling operation is performed at low speed—3 to 5 knots—though not necessarily at low power, since the added resistance of the trawl gear not infrequently requires full power to maintain the necessary trawling speed. When the trawl is hauled aboard, the vessel is brought broadside to wind and sea with little or no forward speed, and the gear is hoisted from a point well up the mainmast. This low speed while trawling introduces a factor which is, in fact, favorable to seaworthiness, since reduction in speed is nearly always helpful and often necessary when a ship is laboring excessively in a heavy sea. It explains why trawlers can often fish in comparative comfort in a seaway which would prevent anything approaching full speed operation.

It is possible that the trawl net may have a steadying directional effect on the vessel's behavior not unlike the influence of a sea anchor. But as there is also a low limit of trawling speed below which the operation becomes ineffective, the objective is to extend the ability to trawl in heavy weather in order to gain fishing time. Likewise, of course, gains in ability to maintain speed on passage are desirable in a quite different speed range.

A combination of factors determines the upper limit of speed in heavy weather; for the ship; size, the relation of displacement to length, hull form, and stability, for the sea; the relation of the length and period of the waves to the length and the natural periods of the motions of the ship. When these latter factors approach synchronism, the ship's behavior is most violent and its resistance most greatly increased. The problem is, what can be done to increase the safety and extend the upper limits of operational ability in both trawling and free running conditions?

Bettering Boat Performance

Improvement of existing vessels is admittedly difficult. They are as they are, but some improvements may be effected. Stability characteristics may be accurately calculated and if advisable, ballast may be added or rearranged or even reduced. Loading and trim conditions may be improved and watertight integrity insured through well fitted hatches and other openings. But beyond these precautions, not much can be done to improve the seaworthiness and extend the operational limits of vessels already in service.

With the new design, there is much more latitude. For these small, "fat" vessels, V-type sections in the forebody, ample draft to insure good immersion of the propeller, and a moderate displacement-length ratio all have a favorable effect on seaworthiness and the ability to maintain speed in heavy weather. Ample freeboard and reserve buoyancy, particularly at the bow, are desirable. Sufficient transverse stability and easy rolling are somewhat conflicting requirements, but it may soon be possible and advantageous to incorporate such devices as anti-rolling tanks or adjustable fins which modify rolling without sacrifice of stability, which must, of course, be ample for all loading conditions.

Further than this, a rearrangement of conventional loading facilities which will improve watertight integrity is most desirable; systems which will obviate the neces-

(Continued on page 45)

* Material abstracted from paper presented at meeting of Gulf and Caribbean Fisheries Institute. Mr. Minot is Director of Ocean Resources Institute, Inc., Woods Hole, Mass.

Pacific Coast Ocean Shrimping Shows Growth

*Annual catch has tripled since first landings were made off California in 1952, and fishery has moved northward**

EXPLORATORY fishing by State and Federal government agencies laid the groundwork for the development of the Pacific Coast's growing ocean shrimp fishery. The first trip of deep-water ocean shrimp was landed in April 1952 by the trawler *Grace H.* at the port of Morro Bay, Calif. From this modest beginning is developing a commercial fishery of economic importance to the Pacific Coast fishing industry.

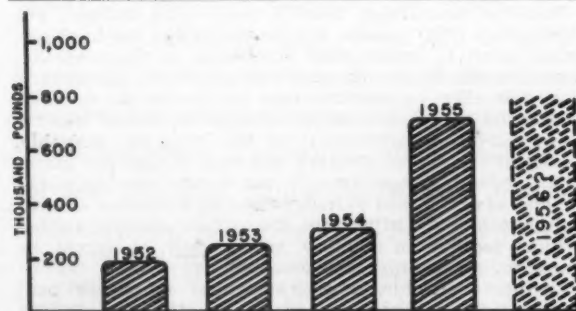
The first season of ocean shrimp fishing off California in 1952 saw a total catch of over 198,000 pounds. Landings at Morro Bay, Calif., accounted for the bulk of the production, with small amounts landed at the ports of Bodega Bay and Eureka in Northern California. Little interest in ocean shrimp fishing and processing was exhibited in Northern California in 1952, but this area during the 1955 season was the largest producing section in the State.

Two vessels fished for shrimp off Morro Bay, Calif., in 1952. Considering the type of gear used (16-foot and 18-foot beam trawls), the catch for an hour of trawling was very high, averaging close to 700 pounds of shrimp. Occasional catches of as high as 4,000 pounds an hour were recorded in this area. The ex-vessel price to the fisherman was 10 cents a pound (heads on), and a normal day's catch would run 1,000 to 3,000 pounds.

The 1953 ocean shrimp catch for the States of California and Oregon was approximately 240,000 pounds. California, with landings of 205,000 pounds, accounted for most of the total production, with increased landings in the northern area of the State. However, as in 1952, the great percentage of the California ocean shrimp catch was made in the area off Morro Bay by the same vessels that fished in 1952. The catch for an hour's trawling decreased from the 1952 average high of 700 pounds an hour to about 540 pounds an hour in this southern area.

In Oregon, the first commercial catch of ocean shrimp was made in June 1953 by the trawler *Nel Ron Dic.* The catch was landed and processed at Coos Bay, Ore. During the 1953 season, 25,000 pounds of ocean shrimp were landed, with the majority caught in the vicinity of Cape Lookout, Ore., to Cape Elizabeth, Wash., and processed at Garibaldi, Ore. Only a small amount of shrimp was landed and processed at Coos Bay, Ore., during the 1953 season.

* Material for this article was excerpted from a report by James L. Squire, Jr., Assistant Chief, Exploratory Fishing & Gear Development Section, U. S. Fish and Wildlife Service.



West Coast ocean shrimp production, 1952-1955.



Shrimp trawler "Hornet" at Morro Bay, Calif., showing beam trawl and "A" frame which are used for towing and handling the beam.

Begin Exploiting Northern California Grounds

In 1954, more interest by Northern California processors and fishermen resulted in the total landings of ocean shrimp increasing to about 305,000 pounds. Since the best available records indicate the Oregon fishery did not produce any ocean shrimp during 1954, the total West Coast ocean shrimp catch (excluding Alaska and British Columbia) can, therefore, be credited to fishing off the California shore.

The majority of the catch in California was landed at the ports of Bodega Bay and Crescent City, with each port sharing about equally in the total production. The shrimp grounds off Morro Bay, which previously had supported the State's major production, failed to yield shrimp in commercial quantities in 1954. Numerous attempts were made by local shrimp trawlers to locate profitable production areas, without success, and as a result the catch from off Morro Bay was only 5 percent of the 1953 landings. Three trawlers produced the majority of the California catch in 1954, and these trawlers plus two additional vessels continued their operations again during the 1955 season.

The Pacific Coast landings of deep-water ocean shrimp totaled 722,363 pounds in 1955, and more than doubled those of 1954. California accounted for 716,976 pounds, with 382,777 pounds of this total landed at Crescent City and 332,753 pounds at Bodega Bay. For the second year the shrimp area offshore from Morro Bay produced only a token amount of shrimp after repeated fishing efforts.

Oregon production in 1955 was 5,387 pounds, with the major portion of the catch made off Newport, Ore., in the area bounded by Hecate Bank and Cape Lookout.

Exploratory Shrimping Operations

Exploratory fishing conducted off the coast of Washington in late 1955 by the Fish & Wildlife Service's research vessel *John N. Cobb*, in cooperation with the State of Washington, revealed shrimp over a widespread area off the Washington coast. Indications for a possible successful commercial fishery for ocean shrimp off the coast of Washington during the Summer months were corroborated by this information.

Additional exploratory work by the *John N. Cobb* in April 1956 again produced good catches. During a short

period of "production trawling" with a 40-foot Gulf of Mexico flat trawl, catches averaged better than 1,400 pounds (heads on) for an hour of trawling, indicating that during this time of the year commercial-scale production is possible.

The catches made with the flat trawl, which, unlike Pacific Coast fish trawls, is without extended wings and is tied close up to the doors, included relatively few fish. The catch composition appeared to be about the same in flat-trawl and beam-trawl hauls when working on known shrimp grounds, but the flat-trawl catches were larger. The producing areas as developed to date are all offshore in the sense of being outside the International three-mile limit.

From 1950 to 1953, exploratory fishing by the California Department of Fish and Game research vessel *N. B. Scofield* resulted in charting six areas having dense concentrations of ocean shrimp off the California coast. The areas where the ocean shrimp are found in commercial concentrations are from 40 to 90 fathoms in depth on green mud bottom. Subsequent activity by the commercial shrimp trawlers operating out of Crescent City, Calif., developed the area off the extreme south end of Oregon, and excellent catches have been reported from this region.

During 1952 exploratory ocean shrimp fishing was conducted by the Oregon Fish Commission. Promising indications of shrimp were obtained in areas off Coos Bay, Cape Lookout, and Tillamook Head, Ore.

State Shrimping Regulations

The State of California enacted in 1951 legislation prescribing certain regulations for the ocean shrimp fishery, as a result of information gained on the possible magnitude of the resource by exploratory fishing results. The State waters were divided into three areas, each with a specified poundage quota limit. Total production possible under the original regulation was 2.5 million pounds (heads on) a season.

In 1956, the region from Point Conception to Pigeon Point (below San Francisco) was made an illegal area for shrimp trawlers. In this section lies the original producing fishery (off Morro Bay, Calif.), which after two years of very low catches was ordered closed by the State Fish and Game Commission. The total production now legally possible during a season is 1.6 million pounds (heads on), as a result of reduced fishing areas and quotas.

Gear restrictions enacted in 1952 specified the use of beam trawls, with a maximum width of 20 feet, and a

Pulling the cod-end rope to release the 700-pound catch of Pacific Ocean shrimp. This haul was taken in one-half hour of dragging.



net mouth circumference of not over 45 feet. The original minimum mesh regulation of 1½ inches was increased to 1½ inches for the cod end in 1956; in 1957, all meshes are required to be 1½ inches.

The limiting of the gear to beam trawls is an attempt by the State conservation agency to lessen the effect small-mesh nets may have on the existing flatfish trawl fishery. Beam trawls are claimed to be less efficient in the capture of finfish when compared to otter trawls. If large otter trawls of small mesh were allowed, this would work to the detriment of the otter-trawl bottom fishery, which operates in the same area and is presently limited to a mesh size of not less than 4½ inches.

A season was established extending from April 1 to September 30, or until the poundage quota was caught. In 1954, the season was adjusted to May 1 to October 15 to correspond more closely to the period of the year when the shrimp are not carrying fertile eggs.

The only regulation affecting ocean shrimp fishing off the State of Oregon is that shrimping shall be with beam trawls. The size of the beam or net mesh are not specified, nor are season or poundage regulations invoked.

In Washington, ocean shrimp may be taken by beam trawls and otter trawls. The size of the gear is not restricted, except that the mesh of shrimp nets shall not be less than 1½ inches. The State of Washington specifies that shrimp trawlers shall be equipped with a sorting device to return the unmarketable undersize shrimp to the water as soon after capture as possible. Season, poundage, or area restrictions for the ocean shrimp fishery are not specified.

Outlook for Future

Factors that will determine how rapidly and to what size the Pacific Coast ocean shrimp fishery will develop are many. Because economically processing these small shrimp is a problem, many fish dealers are reluctant to enter the field of ocean-shrimp processing. The cost of labor for picking the small shrimp results in high production expenses, which are reflected in a high wholesale price. However, the quality of the frozen vacuum-packed cooked-and-peeled "cocktail size" product is such that it has been able to meet competition from other domestic and foreign sources. The total quantity of shrimp available to the commercial fishery is unknown in many cases, and as a result the seasonal production potential cannot be predicted at the present time.

The Pacific Coast ocean shrimp fishery is the result of extensive exploratory fishing activities in the various areas. These explorations and the efforts of commercial fishermen and processors have developed a marine resource that is providing added income for the Pacific Coast fishing industry.



Hauling up the net on the Pacific Coast shrimp trawler "Hornet", after a half-hour tow.

Decisions Handed Down in Fisheries Law Suits

By Leo T. Parker, Attorney at Law

KNOWLEDGE of the cause and outcome of recent higher court decisions affecting the fishing industry will assist readers to conduct their business in a manner designed to avoid legal controversies. Obviously, readers and their lawyers may advantageously cite and use the new decisions to win unavoidable law suits. Persons, firms and corporations engaged in catching, taking and packing fish, oysters, etc., are affected by these recent higher court decisions.

Liable for Diverting Water

The higher courts hold very consistently that a property owner who diverts a natural stream, or other water, to the damage of an adjoining property owner, is liable for reasonable damages. For illustration, in *Sund v. White*, 259 Pac. (2d) 1113, evidence was introduced which proved that there was a ridge of land some three to four feet high which protected oyster beds owned by one White from being damaged by flood waters. In other words, this ridge always had served to keep the flood waters within the natural channel of the creek.

Sund, the owner of adjoining land, wished to improve his property. Accordingly, Sund employed a bulldozer operator to remove gravel and material from the natural ridge and to push the dirt westerly. After the cut was started, White wrote Sund stating his fears that high tides might do damage to his oyster beds by washing loose gravel on them. A meeting between the parties was proposed, but none took place.

After the completion of the cut, a freshet of considerable proportion occurred. The waters found their way through the excavated portion of the ridge and carried much debris and gravel onto White's oyster beds, covering them to a depth of about two feet. Soon after the flood, the stream receded to its normal course.

White sued Sund for damages. The lower court awarded White \$5,000.00, and the higher court approved the verdict, saying:

"The appellant (Sund) removed a portion of the north bank and thereby created a dangerous condition in event of flood. Sund refused to take precautions such as building a bulkhead to retain the banks of the stream. Because of the flood, the waters of the stream were diverted onto respondent's (White's) land, and damages in the extent of \$5,000.00 were caused by the acts of appellants. We are convinced there is ample evidence in the record to support the lower court's assessment of damages in the sum of \$5,000.00."

Required to Return Undersized Fish to Water

According to a late and leading higher court decision, a State law is valid which requires commercial fishermen to return undersized fish to the water. In other words, the right of persons to purchase commercial fish for resale is not an absolute right, but a mere privilege which the State may grant or withhold at its pleasure.

For illustration, in *Fugett v. State*, 188 S. W. (2d) 641, an outstanding litigation, it was disclosed that a State passed a law which required any person fishing for commercial purposes in the waters of the State to immediately and carefully return to the waters any fish less than 16 inches in length.

A licensed commercial fisherman was found in possession of a fish less than 16 inches long, and was convicted for violating the law. He appealed to the higher court on the contention that since noncommercial fishermen may catch and consume such fish, the privilege of doing so could not be denied to him simply because he had obtained a license to fish for commercial purposes.

It is important to know that the higher court refused to

agree, and upheld conviction of the commercial fisherman. This court said:

"The appellant as a dealer in commercial fish is engaged in a business which is peculiarly within the control of the State under its police power. . . . We cannot say that requiring commercial fishermen to throw back into the water small fish caught by them is arbitrary—even though the effect of this is to deny to commercial fishermen the right to catch such fish for their own use."

Also, see Supreme Court of Louisiana in the case of *State v. Monteleone*, 171 La. 437, 131 So. 291, 292. In that case it was contended that the statute requiring a dealer in commercial fish to obtain a license from the State was unconstitutional. In sustaining the constitutionality of the law, the court said:

"The fish referred to in the statute are owned by the State in its sovereign capacity for the common benefit of all the people. This ownership is recognized and established both by the title and the provisions of the act."

Fish Lost During Shipment

A reader asked this question: "If a shipper delivers fish to a transportation company which delivers the shipment to a wharf or warehouse company, who is liable if the fish are lost, stolen or destroyed while in the care of the wharf company or warehouse company?"

The answer is: Neither a wharf company nor warehouse company is liable for lost, stolen or destroyed merchandise unless the testimony shows that negligence of its employees caused the loss. This law also is applicable where an initial common carrier delivers a shipment of merchandise to a wharf company or warehouse company for transportation to the final carrier.

For instance, in *Galveston Wharf Co. v. American Co.*, 13 S. W. (2d) 983, it was disclosed that a shipper delivered to a steamship company 1,125 cases of sardines, for which a through bill of lading was issued. The sardines were transported by the steamship company and then delivered to a wharf company which was to transport the sardines to the connecting railway for final transportation to the consignee. The wharf company negligently failed to transport the shipment to the railway company on the day it should have made the delivery, and the following day the wharf burned, without fault of the wharf company, and the sardines were destroyed.

The consignee sued the wharf company for the value of the destroyed sardines. The higher court held the wharf company not liable, saying:

"The rule is that an agent is personally liable to third persons for doing something which he ought not to have done, but not for not doing something which he ought to have done. . . ."

Must Have Lights and Whistle

According to a late higher court decision, a fishing vessel which is not provided with regulation lights and a whistle is primarily liable for collision with another boat.

For illustration, in *Laksmith v. Garner*, 205 Fed. Rep. (2d) 262, it was shown that a fishing boat collided with another boat. In subsequent litigation, the testimony showed that the fishing boat had no operable whistle aboard, and that her lights were not turned on until the collision was inevitable.

The owner of the fishing vessel was held liable by the lower court for full damages sustained by the other boat. The higher court sustained the verdict, saying:

"The District Court upon adequate evidence found the fishing boat solely at fault for not having aboard a seaworthy and operable whistle and in proceeding and being under way without seaworthy regulation lights."

Use of Skiffs for Inshore Shrimping Is Recent Louisiana Trend

*More efficient and economical to operate than inshore shrimp trawlers, reports S. C. Denham**

IN the last few years a new type of skiff has been used in the Gulf of Mexico for shrimp fishing in inside waters. These skiffs, operated principally in the Lafitte-Barataria area of Louisiana, vary in size from 20 to 26 feet in length (mostly 22-24 feet), have a beam of from 6 to 8 or 9 feet, and a draft of 18 to 24 inches. A very few may have cabins or half cabins built on them.

Designed principally for shrimping in inside waters, these boats are considered quite efficient for this purpose. Generally they pull a 30- to 40-foot shrimp trawl. They also are used for crab fishing (running lines), hand-line fishing, as well as a speedy means of transportation to and from fishing camps located in the lowland marshland areas.

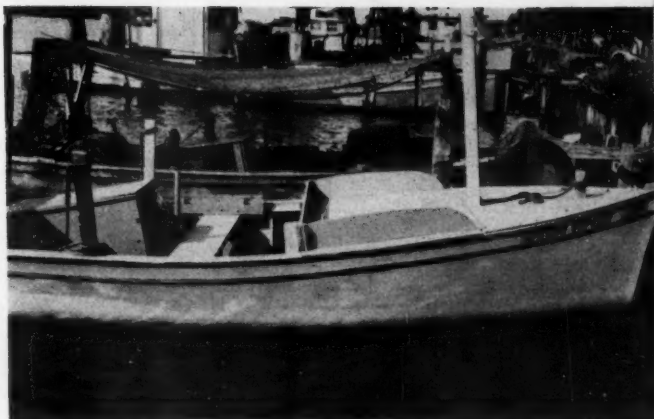
An estimate indicates that there are from 200 to 300 shrimp skiffs operating out of the Lafitte-Barataria area. Many shrimp fishermen operating solely in inland waters are of the opinion that these skiffs are superior to the older inside trawlers in all respects: (1) maneuverability, (2) speed, and (3) over-all efficiency and economical operation, including manpower, maintenance, and repairs.

When trawling gear is used by the skiffs, it is handled entirely by hand. The platform at the stern has enough space for playing out the trawl, as well as hauling it aboard. After the net is pulled aboard, the cod end containing the catch remains in the water. It is moved forward where a small frame extending over the side of the boat suffices to hold open the bag for brailing out the catch.

Most of the skiffs are powered by 85 or 115 hp. gasoline marine engines. The cruising speed of the skiffs is from 18 to 22 miles per hour, with a maximum speed of 30 miles per hour. The cruising range depends upon the gasoline capacity of the craft, which varies from 30 to 60 gallons.

At cruising speed, approximately 4 gallons of gasoline per hour is used; trawling fuel consumption is 3 gallons and less per hour. At high or maximum speed, 5 gallons or more of fuel are consumed per hour. None of these skiffs operate out of a fishing port where the distance to the fishing grounds is much over 30 miles away. With some exceptions, the crew generally consists of one man.

*Associated with U. S. Fish & Wildlife Service, New Orleans, La. Mr. Denham took the pictures accompanying this article.



Side view of skiff used for shrimp fishing in the inside waters of the Gulf of Mexico. Note sorting platform near bow.

Built of Cypress

Cypress is used in the hull construction of practically all of the shrimp skiffs. The development of this type of craft has been a gradual process over a period of years—from the old flat-bottom type of boat toward the design of the larger shrimp trawlers, but with the trend toward use of lighter wood in the construction.

Changes in design are gradually being incorporated in the new skiffs being built. These boats are now being constructed with a flare and "V" bottom toward the bow, and include a keel which is sufficient for protection of the bottom as well as reinforcement.

The trend seems to be towards larger skiffs of this type. There are several in service with a length of 28', and there are reports of building even larger ones. The inclusion of a hold for icing shrimp is under consideration. There is at least one skiff completely enclosed with deck and cabin. Actually, if the size continues to increase, the term "skiff" as applied to these craft will not be suitable.

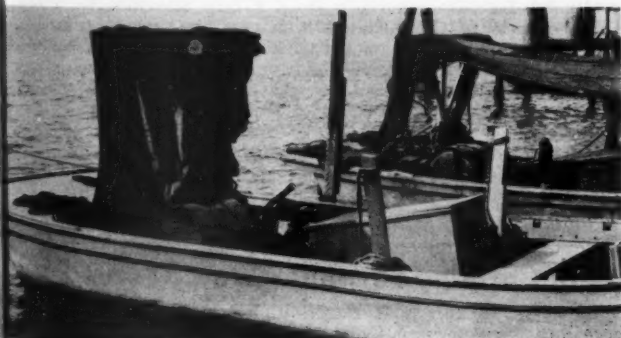
Five Fishing Industry Loans Granted by Government

Secretary of the Interior Fred A. Seaton announced recently that the first five loans to be granted from the new fisheries loan fund have been approved by the United States Fish and Wildlife Service. The total of the five loans is \$41,500.

One of these loans is to an applicant in Massachusetts, two are to California applicants and two to Alaska fishermen. The loans will be closed and serviced for the Department of the Interior by the Small Business Administration.

On file and being handled as rapidly as possible are approximately 70 other valid loan applications totalling \$2,300,000. From New England have come applications for \$919,500; from the West Coast there are requests for \$960,000. Gulf of Mexico fishermen are seeking \$274,000; those of the Middle and South Atlantic, \$48,000; Alaskans are requesting \$72,500, and Great Lakes fishermen are asking \$40,300.

The fisheries loan fund was established by the Fish and Wildlife Act of 1956, which provided for making loans for financing and refinancing of operations, maintenance, replacement or repair of fishing gear and vessels, and for research into the basic problems of fisheries. The broad objective of the fisheries loan fund is to provide financial assistance which will aid the commercial fishing industry to bring about a general upgrading of the condition of both vessels and fishing gear, in order to produce more efficient and profitable fishing operations.



Stern view of shrimp skiff used in inside waters of Gulf of Mexico, showing the small frame on the port side next to the seat. Inserted in the two holes are two small pieces of wood or planks (2-2½ feet long) extending out over the water to support the cod-end with the catch and hold it open so that the shrimp may be brailed out with a small hand net.

Great Lakes Fishermen Making Excellent Chub Catches

Commercial fishermen in the Port Washington area of Lake Michigan in December were harvesting an unusual crop of chubs. Lifts of up to 3,000 lbs. were being brought in when 500 lbs. or less would be considered a better than average catch.

It was thought that one reason chubs were so plentiful was that their enemy, the lake trout, has been reduced greatly in numbers by the invasion of the sea lamprey. Also, one of the chub's favorite food supplies, the little smelt, has been increasing in numbers.

Select chubs in December were sold chiefly to the Chicago market, many of them to be frozen and later smoked for sale as one of the delicacies of the Great Lakes.

Fishing fleets on Lake Superior braved the frigid winds and sometimes mountain-high waves to attend to nets and bring back the prized lake trout. In the Bayfield, Wis. area, aside from trout netting, herring netters were hauling in commercial quantities of lake herring as the run tapered down.

In the Green Bay area fishermen were still operating in open water, where catches were generally light in whitefish, smelt, herring and yellow pike; but in some areas of the bay, yellow perch and chub were in good supply.

Along the eastern shore of Lake Michigan, commercial fishermen were getting some nice yields of chubs and lake perch, but catches of yellow pike were disappointing.

From the Saginaw Bay area of Lake Huron, catches were good in yellow perch and chubs in some instances. Yellow pike yields have been poor compared with other years. Lots of smelt are showing in the area, and the herring hauls have been fairly good.

Michigan waters of Lake Erie are closed until March 15. Previously, however, both Michigan and Ohio and Pennsylvania fishermen, including the few New York State vessels, were getting good yields of yellow perch, pike, and sheepshead.

Fishermen Collect Trout Eggs

About one million lake trout eggs were collected from Lake Superior this Fall, and will be hatched at the Conservation Department's Marquette hatchery. Thirteen commercial fishermen from Munising and Marquette participated in the cooperative spawn-collection venture.

Also, 90,000 eggs were taken from 44 females of the 162 brood stock lake trout being reared at Marquette hatchery. These fish have spawned several year classes of young fish that will provide eggs and fish in future years to take up the slack being caused by lamprey losses.

Late Herring Run

The Lake Superior herring run in the Wisconsin area was late in getting into high gear this season, but Decem-

ber again found a large number of persons cleaning and packing the fish for shipment.

In Bayfield, Cornucopia and Herbster, practically every-one available is put to work each year during the run, taking care of the hundreds of tons of herring.

Extremely high winds kept fishermen ashore on some days this past season, but the storms are a factor in sending the herring in to shallow waters to spawn, and so could perhaps be classed as both good and bad for the fishing industry.

Fishing Tugs Freed from Ice

A 25-mile-long path through three to eight inch ice was cut on December 15 by the Coast Guard cutter *Mackinaw* for five Ontonagon fishing tugs that had been caught in the Portage Canal near Houghton.

Ohio Landings Increase

The commercial catch of fresh-water fish by Ohio fishermen operating in specific areas of Lake Erie during October totaled 3.2 million pounds. These landings were 729,000 lbs. more than were landed during the previous month, and a gain of 1.5 million pounds compared with October 1955.

Three principal items accounted for 82 percent of the total—yellow perch, blue pike and yellow pike.

Wisconsin Fish Management Program

The Wisconsin Conservation Commission's committee on waters recently heard a review of a proposed fish management program, some of which is of direct interest to commercial fishermen. The contemplated projects and their costs include: Sea lamprey control, \$50,000 annually, for expansion of the present program in both Lakes Superior and Michigan.

Great Lakes investigations, \$50,000 annually. It was pointed out that with the lake trout population going down because of lamprey depredations, there is critical need for studies as to how the remaining fishery resources can best be conserved and improved.

Lake trout propagation—\$10,000 non-recurring cost and \$20,000 annually. If the lamprey is brought under control, there will be need to restock Lake Michigan, and State hatcheries would probably be used for that purpose.

Rough fish control—\$160,000 non-recurring cost and \$50,000 annually. It was reported that a great need in this field is more labor-saving devices.

Mullet Featured at Fish Fry

During National Fish Week a huge fish fry was staged at Bayport, Mich., at which 2,600 lbs. of fresh-water mullet were prepared and served to over 1,000 persons. This was the first time mullet had ever been used at a public fish fry.

The success of this affair, which was sponsored by a local fish company, has encouraged others in the area to plan similar activities in the future.

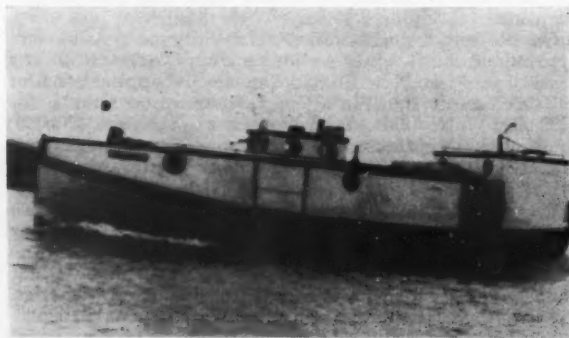
New Chrysler Engine Dealer

Catawba Marine Sales, Inc., Port Clinton, Ohio, has been appointed Chrysler Marine engine dealer for the city of Port Clinton. Robert B. Kyle is president of the company.

South Carolina Shrimper Crew Rescued

The 40-ft. shrimp boat *Carolina*, helpless at sea for three days, was located by the *Tiki*, owned by Capt. J. Jervey Lockwood of Charleston and towed into port. The five crewmen had been without food for more than two days, and were given sandwiches before the long return tow to port began.

The *Carolina* had sailed from Mount Pleasant on a commercial fishing run, but she became disabled and was forced to anchor to await help.



40' fishing tug "Carlson Bros.", owned by Robert Carlson of Port Wing, Wis. She is powered with a 121 hp. Gray Lugger 6-330, and uses Nylon gill nets to catch lake trout, whitefish and herring.



Richard (Dick) Abbott of Freeport, Long Island, N. Y., and his new 55' Hatteras Trawler "Gannet", constructed by Morehead City (N. C.) Shipbuilding Corp.



Rhode Island Trash Fish Plant Has Record Year

Officials of the Dehydrating Process Co. reported recently that more than one million dollars was paid for trash fish delivered to its Point Judith plant this year. Production for 1956 reached a record peak.

The plant will soon make application to the State to expand the Point Judith facilities to increase production in the face of growing commercial fishing activity. During the year more than 50 draggers sold trash fish to the plant, with about 40 being members of the Point Judith Fishermen's Cooperative.

The plant has a record of operating without offensive odor to nearby Summer residents for the past two years. When the catch of fish becomes greater than the capacity of the plant, it is trucked off to one of the firm's two other plants located in Gloucester and Woburn, Mass.

John Ryan, president of the firm, said he is hopeful that production during 1957 will exceed the 1956 record figure.

Rocky Bottom Hampers Quahaugers

A spokesman for the Blount Seafood Corp. of Warren reported recently that his company has received no more than 20 percent of the total of quahaugs that had been expected from the new quahaug beds off Prudence Island.

Fishermen who worked the area reported their take has been far below expectations. The quahaugs are in an area with a rocky bottom, which has resulted in fouled-up dredging gear and made work difficult.

However, John L. Rego of the Fisheries Department reported a fair harvest in transplanted quahaugs.

Coast Guard Expands Radiotelephone Coverage

Equipment was being installed last month which will enable the Bristol depot of the Coast Guard to talk directly by ship-to-shore telephone with eight lighthouses in the bay, the lifeboat stations at Castle Hill, Point Judith and Block Island, and three boats. The equipment will have a range of 200 miles.

New Quahaug Areas Opened

Two new quahaug areas for handrakers were opened on December 17. Both have been stocked with shellfish taken from the Providence River.

Some 9,000 bushels of quahaugs have been put into Potter's Cove, Prudence Island. The Cove, north of Island Park, Portsmouth, has 600 bu. of transplanted quahaugs.

Long Island's Newest Dragger "Gannet" Has Laminated Keel

The new 55' Hatteras Trawler *Gannet* has left the yards of the Morehead City (N. C.) Shipbuilding Corporation to join the fishing fleets of the North Atlantic. She was built for Richard (Dick) Abbott of Freeport, Long Island, N. Y., and her hailing port is Baldwin, Long Island.

An innovation in keel construction for the Morehead City Shipbuilding Corp. is featured in the *Gannet*. The keel, measuring 10" in width and 15" in depth, is fabricated of 10 pieces of select white oak built up to four thicknesses and glued with a special waterproof glue. The same type of keel is being used on other trawlers which the shipyard currently is building for Northern owners.

J. E. Naf, general manager of the Morehead City firm, commented that fabrication of the keel offers two distinct advantages. "By using this method," he said, "we can insure that the keel contains only choice material throughout its length, and we can increase keel strength greatly."

The *Gannet* is powered by a General Motors 6-110 Diesel turning a 44" x 34" four-blade Southerner propeller through a 3.75:1 reduction gear. The auxiliary generating set is a 3,000-watt Onan Diesel model. There are two Jabsco pumps, one driven off the auxiliary generating set and the other driven off the main engine. The engine room contains two 800-gallon contour fuel tanks.

The pilothouse measures 17' long by 7' wide, with turtle back. There is one built-in bunk in the captain's quarters, with two drawers underneath. In the fo'c's'le are four built-in bunks with locker space underneath. There is a Shipmate Model 212 stove in the galley.

Scallop Damaged by Fire

A gasoline fire aboard the scallop boat *Nellie* owned by Capt. John Harvey of Greenport caused about \$2,000 damage last month.

New York Fishery Landings

Landings of fishery products in New York during September, exclusive of menhaden taken by purse seines, totaled 2.2 million pounds valued at \$590,000.

Inclement weather hampered fishing operations during much of this period. The catch of fluke increased 200,000 pounds, while scup or porgy was down 303,000 pounds.

There were no other trawl landings at Fulton Market during September, but 13 vessels made 20 trips and landed 168,000 pounds of sea scallop meats. An additional 76,000 pounds were landed in the Greenport area.

Texas Oysters Affected By Prolonged Drought

The prolonged drought which has been a hardship for farmers and ranchers for the past seven years, has now affected marine life. A recent report based on the findings of the Texas Game and Fish Commission states that in bays ordinarily favorable to oysters, the salinity index has almost doubled, with the likelihood that in isolated back bays the salinity will continue to increase until diluted by a heavy run-off from the adjacent watershed.

It is believed that during most of these years, oyster spat have been killed by this excessive salt condition. Indications are that the hopeful oyster comeback indicated last year will again suffer a setback for two more years, at least.

Rockport has recorded only 17.85 inches of rainfall during the past 12 months, while 31.32 inches is considered average. Galveston Bay oyster reefs have suffered less from drought conditions than areas farther south. However, this bay is now being invaded by conchs and boring sponges, where under normal low salinity conditions they could not survive.

Landings for Eleven-Month Period

During the eleven-month period, January 1, 1956 to December 1, 1956, some 32,588,000 lbs. of heads-off shrimp were landed at the principal Texas Gulf ports, as compared with 35,093,000 lbs. for the previous year.

The Aransas Pass-Corpus Christi area led with 7,805,000 lbs. Brownsville was second, followed by Port Isabel and Freeport.

Edible finfish landings totaled 1,900,000 lbs., with Port Isabel in the lead with 1,062,000 lbs., followed by Galveston with 555,000 lbs.

Oyster landings totaled 10,360 barrels for the period, all coming from the north coast area.

Production Down Due to Holidays

Christmas holidays practically stopped shrimping operations along the Texas Gulf coast. Hundreds of trawlers were deserted in boat basins at Brownsville and Port Isabel. The Corpus Christi basin was crowded with trawlers whose home ports were from Florida to the Rio Grande. The Conn Brown Basin at Aransas Pass also was filled to capacity.

Weather, generally, was favorable for shrimping during the 30-day period ending December 25, but landings at the principal Texas ports were less than those reported earlier in the Fall, due in part to the departure of some



Capt. Bill Larkin of Freeport, Texas, mending a net on his shrimp boat "Inez B".

100 trawlers for their home ports in November and December.

Incomplete reports from some of the principal areas along the Gulf coast showed a total of 2,835,000 pounds of heads-off shrimp. Sizes were good, with a good demand and higher prices.

Edible finfish production exceeded the demand. Redfish, speckled sea trout and red snappers were plentiful, and some fishermen failed to find a market. Black drums were scarce, but good runs are expected in the bays this month.

Gloucester Fishermen Seek Quick Action on Loans

The Federal Government came to Gloucester last month in an attempt to speed the processing of repair loans for local fishing boats. Three of the Government men remained at their new office, conducting interviews with owners who have applied for loans. At the same time, another man was surveying and appraising each of the boats.

Later in the month the Gloucester Fisheries Commission met with Congressman William H. Bates and representatives of the Dept. of Interior, the Fish & Wildlife Service and the Small Business Administration. The men all agreed that everything was being done to complete the processing of applications as soon as possible.

Want Maritime Academy Moved to Gloucester

A bill proposing that the Massachusetts Maritime Academy be relocated in Gloucester was filed with the clerk of the House last month by Rep. Richard L. Hull of Rockport.

He also filed two other bills calling for coordinating of all fisheries research funds, Federal and State, through the Maritime Academy, and having the Academy offer a course to train young men to be fishing boat masters.

Fire Damages Dragger "Estrela"

The *Estrela*, owned by Philip Filetto of Gloucester, was damaged by fire last month the day before she was due to sail for the fishing grounds. Damage was estimated to be at least \$15,000.

Purchases Davis Bros. Property

Capt. Leonard Linquata has purchased the former Davis Bros. Fisheries Co. property on Rogers Street on behalf of a new company, the Progressive Oil Corp., in order to obtain docking facilities.

Officers of the new Corporation are Mrs. Leonard Linquata, president; Michael L. Linquata, vice-president; Mrs. Margaret Lawson, clerk; and Capt. Leonard Linquata, treasurer.

Studying Problems of Industry

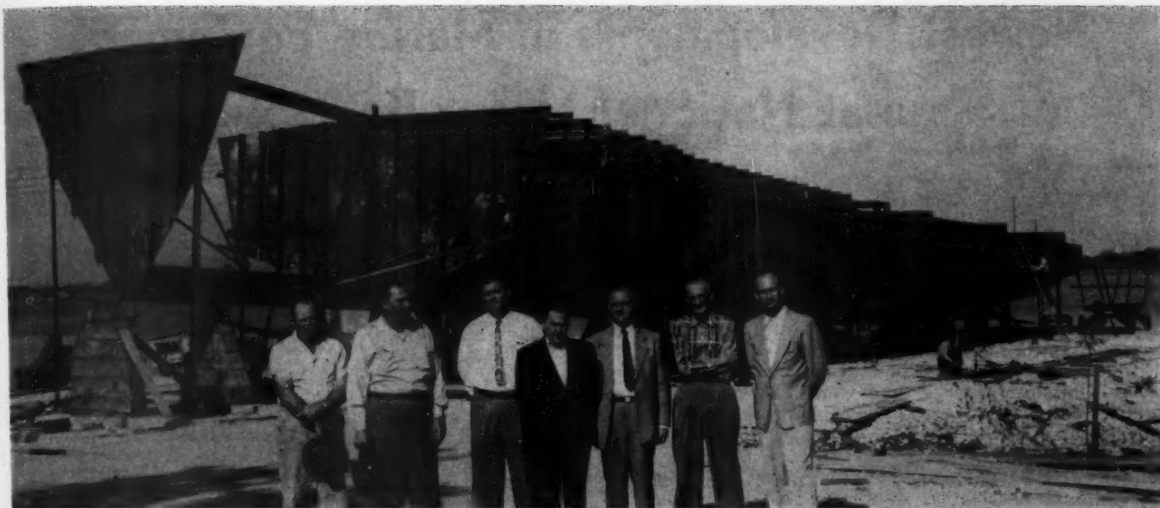
Donald Aska, chief of the Educational and Market Development Section, U. S. Fish & Wildlife Service, and Paul Paradis, from the Boston office, were in Gloucester last month seeking recommendations concerning what can be done to help the New England fishing industry.

They met with City Manager Richard W. Mayo; Lawrence J. Hart, Chamber of Commerce; Capt. Raymond Kershaw, representative of the Gloucester Whiting Assoc.; Manuel F. Lewis, business agent for the Gloucester Seafood Workers Union; and with Alphonsus F. Hayes, port agent for the Atlantic Fishermen's Union.

The two men were also to visit with leaders in the fishing industry in Boston and New Bedford.

Gloucesterman Lost from Shrimper

Antonio M. Fragata, 47, of Gloucester died from exposure after being in the water 13 hours when the shrimp boat *Lucky Star* capsized off Brownsville, Texas, last month. Another Gloucesterman, George Carrancho, 21, was saved by the Coast Guard.



Shown under construction at the Covacevich Shipyard, in Biloxi, Miss., is the 145' steel fishing vessel "Lois C", which will catch menhaden, shrimp and tuna after her Spring launching. Pictured are A. W. Covacevich, builder; George Castigliola, owner; William Kennedy, engine installer; Dewey Lawrence, Supervisor of Harrison County; Robert H. Macy, designer; J. A. Creel, Biloxi Commissioner; and Matt Lyons, Chamber of Commerce president.

Mississippi Vessel Lands Record Catch of Tuna

A record 25-ton load of tuna was landed at Pascagoula last month by the tuna vessel *Milmar*, Capt. Ray Wiese, after a two-weeks' trip into the Gulf.

One of the first commercial tuna boats in the Gulf coast area, the vessel made the big catch 125 miles south of Pascagoula. The catch will be processed in the newly-established Bluff Creek Canning Co. at Vancleave.

The *Milmar* will be joined later by other vessels until a tuna fleet is operating out of Pascagoula, according to C. W. Drake, owner of the *Milmar*. He reported that the *Alfhid*, his second vessel, will be ready about March 1.

Shrimp Boat Sinks in Gulf

A 55-ft. Mississippi shrimp boat, the *Herman S.*, owned by Castigliola Shrimp Co. of Pascagoula, hit a submerged object and sank off the mouth of Mobile Bay last month. The two crewmen were rescued by the *Deacon's Daughter*, trawling nearby.

Covacevich Building Steel Fishing Vessel

An all-purpose 145' steel fishing vessel being built at the Covacevich Shipyard on Biloxi's Back Bay represents the largest steel craft ever constructed by a Biloxi boat builder. Owner of the new boat, to be named the *Lois C*, is George Castigliola of Pascagoula.

The vessel will have a 30-foot beam and will be completely refrigerated so that perishable catches may be frozen at sea. Capacity will be 800,000 menhaden. Though this fish will be the prime cargo, the *Lois C* also will catch shrimp and tuna, which will be brought into Pascagoula and processed.

The *Lois C* will have a speed of 15 miles per hour, and will be equipped with two General Motors tandem Diesel engines, developing 1200 hp. Other G.M. equipment to be installed by the Kennedy Marine Engine Co. will include two 40 hp. generator sets, two 4-71 power units for the refrigerators, and one 4-71 power unit to operate pumps and winches.

Designer of the new steel craft is Robert H. Macy, formerly employed at Ingalls Shipbuilding Corporation in Pascagoula. Mr. Macy stated that the latest safety devices will be installed on the *Lois C*, and that launching of the craft will take place sometime in early Spring.

Louisiana State-Wide Association Proposed for Shrimp Industry

John Lewis, with the support and endorsement of the Twin City Fishermen's Cooperative Assoc., Inc., has instigated a move to organize an association which will be representative of the Louisiana shrimp industry. He has sent letters to a long list of members of all phases of the industry, and has announced that the organization he proposes is open to everyone—producer, dealer, shipper, boat owner, etc.

Delegates of the proposed Association could be instructed to speak for the industry and attend area, State and National conferences, and committees could be appointed to study legislation and advise those concerned.

Numerous local producers and dealers have promptly indicated their approval and have commended Mr. Lewis for his recognition of the need for such an association. One of the aims of the proposed organization would be to obtain cooperation regarding the offshore oil and seismograph operations on the Gulf fishing grounds, in order to minimize the high rate of gear and equipment losses.

Appointed Head of Fisheries Commission

Lamar Clement of Minden took over last month as director of the Wild Life and Fisheries Commission. Clement was elected to succeed Ernest S. Clements, who resigned to take his seat on the Louisiana Public Service Commission.

Increase in Canned Shrimp Production

By the end of the year the production of canned shrimp had about ended. However, it was predicted that between then and the first part of May, there might be spasmodic production should weather conditions be favorable.

During the latter half of October and through November there developed a brisk pack of canned shrimp. As a result of this spurt, the current pack caught up with and went ahead of the short Fall pack of 1955.

Looking ahead into the first four months of 1957, it is predicted that by the time Lent begins on March 6, there will exist a general shortage of all canned shrimp. The demand for cleaned shrimp continues to grow, and the trend towards the 4½-oz. can size continues.

Perhaps the most far-reaching development of 1956 was the continued growth in popularity and demand for shrimp in all sizes and styles of pack.

Newest Developments in Marine Equipment Seen at National Motor Boat Show

THE additional space available in Manhattan's new Coliseum showplace paved the way for a record number of exhibitors at the 47th annual National Motor Boat Show, held January 19-27. A total of 343 companies in the marine industry had exhibits, topping the all-time high set at the 1953 Boat Show by 95 companies and exceeding by 111 firms the number of exhibitors in last year's exposition.

Highlighting the seven-acre display on all four floors, 105 boat builders showed their wares. Twenty-six manufacturers of gasoline and Diesel inboard engines and outboard motors placed their 1957 lines on display, and 212 producers of marine accessories and services added to the annual extravaganza. The sponsor of the Boat Show is the National Association of Engine and Boat Manufacturers.

The following pages contain descriptions of some of the Boat Show exhibits of interest to commercial fishermen.

Interlux Antifouling Paint in New Colors

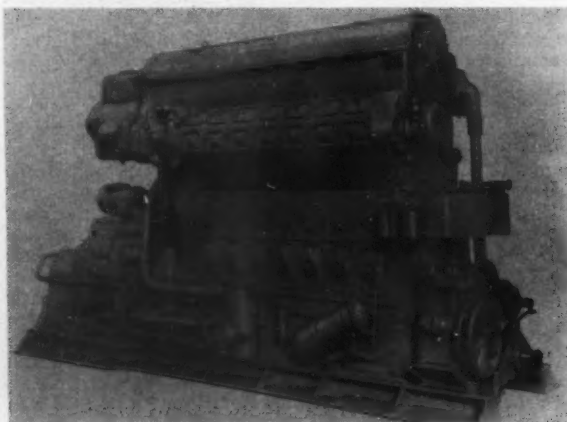
International Paint Co., Inc. introduced green and blue vinylux antifouling paints, which have the same high antifouling properties as other Interlux bottom paints. In addition, eight new ready-mixed pastel shades are being added to the Interlux paint line.

Interlux plug compounds and metallic putty are being replaced with the new improved Interlux Surfacing Putty, which will be available as Surfacing Putty Mahogany No. 255, White No. 257 and Metallic (Gray) No. 38. These non-shrinking, easy-to-apply compounds dry so quickly that they can be sanded within an hour. They are made in ready-to-use consistency.

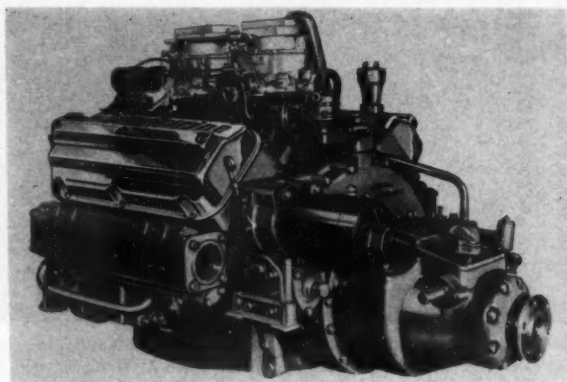
Danforth Distributes Literature on Anchors

Danforth anchors, literature, facts and figures were all on hand to illustrate Danforth's anchor design and high-tensile construction, which have exploded the old maritime myth that weight is the critical factor in anchor holding power.

This year's Danforth booth was a real showpiece in mahogany and blue velvet, with a 1/3 scale boat hull, and was built around the theme: "The World's Finest Anchors". R. D. Ogg, President of Danforth Anchors; W. S. Danforth, Chairman of the Board; and Waring Carrington, Sales Manager, were all at the booth.



Fairbanks-Morse opposed-piston Diesel.



Chrysler Imperial V-275 marine engine, which is rated 275 hp.

Chrysler Increases Power of V-8 Engines

Queen of the Chrysler Marine line this year is the Imperial V-275, the V-8 engine which will replace the V-250, while the Imperial V-Special, formerly a 200 hp. engine, now is rated at 225 hp. Both V-8 engines will be lighter in weight this year, and have been increased to 354 cubic inch displacement. The horsepower rating of the Royal V-Special (M-44S) has been increased to 155 hp. at 3800 rpm.

The five other marine engines in the Chrysler line include the Ace, rated 95 hp. at 3200 rpm.; Ace Special, 110 hp. at 3600 rpm.; Crown, 125 hp. at 3600 rpm.; Crown Special, 135 hp. at 3600 rpm.; and Majestic, 160 hp. at 3000 rpm.

Sodium-filled, stellite-faced exhaust valves, which increase valve life by providing a faster transfer of heat from valves, are standard equipment on the Crown Special, Majestic, Royal V-Special, Imperial V-Special, Imperial V-275, and are available optionally on the Crown model.

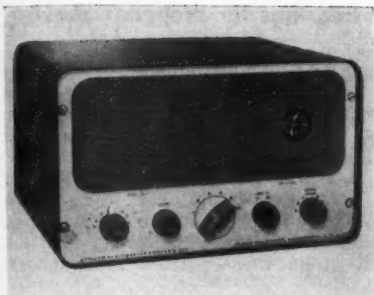
Chrysler vee-drives, which are available in 1.13, 1.5 or 2 to 1 reduction, have had their capacity increased. Reduction gears are internal gear and pinion type with helical teeth, and are available in 1.5, 2, 2.5, 3 and 4 to 1 ratios.

Fairbanks-Morse Displays 600 Hp. Diesel

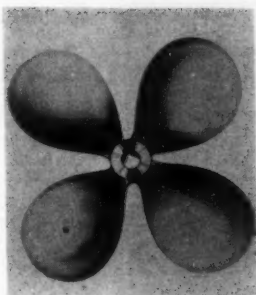
A new 32 hp. heavy-duty Fairbanks-Morse Diesel for work boats shared the spotlight with a big 600 hp. Fairbanks-Morse opposed-piston Diesel. The new Model 45B4½ unit is a 2-cylinder full Diesel of 4½-in. bore and 5½-in. stroke, and develops its 32 hp. at 1800 rpm. This heavy-duty engine has full pressure lubrication and removable cylinder liners, and is available for propulsion service with various ratios of reverse and reduction gears. The engine is built as a lightweight unit weighing 1150 lbs., and also as an ultra light unit at only 700 lbs.

The Fairbanks-Morse opposed-piston Diesel line ranges from 300 hp. for a 4-cylinder Model 38F5¼ to 2400 hp. for a 12-cylinder Model 38D8½. The 600 hp. opposed-piston Diesel shown by Fairbanks-Morse was an 8-cylinder, 5¼ by 7¼-in. unit, developing its rated horsepower at 1200 rpm. The 12,100-pound weight of this compact unit is exceedingly light for a heavy-duty Diesel.

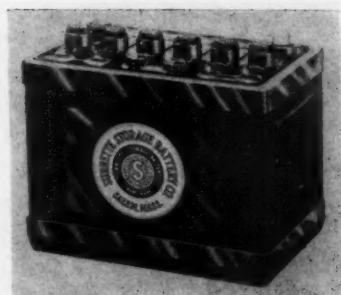
Rounding out the exhibit was the smallest Diesel in the Fairbanks-Morse line, a 5¼ hp. single cylinder Model 45B3½. This unit drives a 3 kilowatt generator, and is intended for auxiliary service.



Apelco's new 16-watt radiotelephone.



Michigan Workhorse propeller.



Surrette's new 12-volt Type "XG" battery.

Apelco Displays New Radiotelephone "Package"

Apelco's new AE-16 marine radiotelephone "Package" makes rapid, economical do-it-yourself radiotelephone and antenna installation practical. The "Package" includes a modern 16-watt, five channel Apelco radiotelephone (with tunable standard BC), tubes, fuses, crystals for three channels, power supply and battery leads. There also is a specially integrated center-loaded quarter wave vertical antenna. Priced at a low figure, the AE-16 radiotelephone "Package" will be available only at authorized Apelco dealers.

Other premier showings included an entirely new Apelco direction finder, the DFR-12, with eight crystal controlled channels and three tunable ranges; and the new AE-148M, 150-watt, 8 channel radiotelephone for Great Lakes and inland waterways.

Gray Offers Extensive Engine Line

The Gray Marine Motor Co., Division of Continental Motors Corp., lists a 1957 total of 17 gasoline and five Diesel marine engines, within the range of 25 to 200 hp. The newest engine in Gray's Diesel series is the 277 cu. in. Four-D277, rated 65 hp. at 2000 rpm. In addition to the 30 hp. Four-D157 and 135 hp. Six-D572, Gray continues to offer the Six-D427, which develops 100 hp. at 2200 rpm., and weighs only 1475 pounds with gear. The Gray Diesel Four-D129, rated 25 hp. at 2000 rpm., weighs only 656 pounds with gear.

All Gray Marine Diesels are of the four-cycle type, for simpler maintenance, and all are equipped with the Gray fresh-water cooling system. They feature the use of aluminum wherever possible to reduce weight.

In their gasoline line, Gray offers seven "fours", including 25 and 63 hp. models, plus 45, 60, 70, 75 and 90 hp. engines. The ten Gray Marine "sixes" completely cover the horsepower range from 100 to 200. The smaller 226 cu. in. models are listed at 100, 110 and 115 hp. The seven larger models are offered at 120, 135, 150, 165, 175, 185 and 200 hp., with big displacement up to 427 cu. in.

Surrette Has New Batteries for Small Craft

Surrette Storage Battery Co., Inc. is offering a new and complete line of Type "XG" double-glass insulated 6-volt batteries with Rezistox plates. Designed for small craft, these batteries have capacity of from 100 to 135 ampere hours. They also are available in 12-volt size, with capacity of 40 to 70 ampere hours.

Surrette introduced a new line of Type "XH" heavy duty 6-volt and 12-volt marine batteries with oversized plates, insulated with microporous rubber separators. These batteries have capacity of from 120 to 350 ampere hours in 6-volt size, and 150 to 220 amp. hrs. in 12-volt.

Surrette offers a complete line of 8-volt batteries with the well known "H-H-G" construction and featuring a 33 1/3% greater capacity size for size and pound for pound. Sizes range from 100 ampere hours at the 8-hour rate to 262 ampere hours.

Surrette Type "G-T-N-S" giant-size batteries are available in two-, three-, and four-cell units for larger craft. Capacity is from 340 ampere hours to 500 ampere hours at the 8-hour rate.

Other Surrette products include new Type "E-L" outboard cranking batteries in both 6-volt and 12-volt size; an improved lightweight automatic battery charger, especially adapted for outboard boats; a new battery box for outboards; and a complete line of fully automatic marine dock to shore converters.

Michigan Propellers for Commercial Boats

Michalloy XX bronze, which originally was offered as standard in Michigan Wheel Company's small 5-blade propellers, now has been found to be very advantageous in other propeller styles for high-powered installations and commercial jobs. It is claimed that the superior physical properties of Michalloy XX bronze insure retention of blade accuracy and resistance to fracture under almost all conditions.

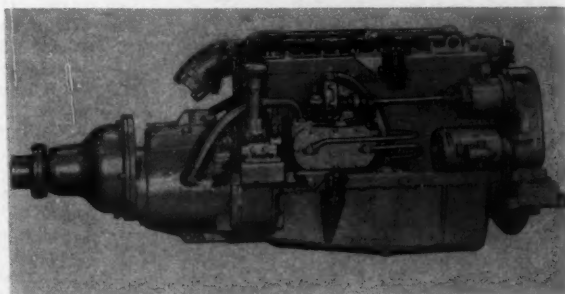
Many fleet owners are reported to have standardized on 3, 4, or 5 blade wheels of Michalloy XX bronze, and thereby reduced haul-outs per vessel by as much as 2 to 6 per year. Developed for salt-water use, Michalloy XX bronze is said to resist abrasion and general damage to a greater degree than stainless steels.

Walter Keel Cooling Systems

The Walter Clean-Flo keel cooler is available in sizes for all types of gasoline and Diesel engines. It is claimed that a Walter keel cooling system greatly lengthens en-



Walter Clean-Flo keel cooler.



Gray's six-cylinder Model 175, rated 175 hp. at 3400 rpm.



Goodrich Cutless rubber bearing which has had four years of service on a 23' cabin cruiser.

gine life, as it gives full protection against corrosion and overheating.

The Walter keel cooler is flush-mounted outside the hull towards the stern. The cooling fresh water passes through one compartment from the engine to the cooling tubes outside and returns to the engine by way of the other. Only one opening is required for the installation, since the through hull fitting is composed of two compartments.

The Walter keel cooler unit has a slip-joint assembly, with all cooler fittings equipped with sockets containing neoprene rings. To guard against electrolysis, each mounting plate to which the cooler is fastened has a suitable pocket containing an easily-replaceable zinc plate.

Walter Machine Co., Inc. also makes V-drives, transfer drives, reduction gears, and propeller pullers.

New Detroit Turbopower Diesels Exhibited

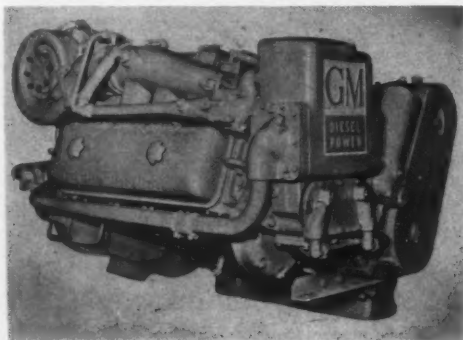
Detroit Diesel Engine Division of General Motors Corp. featured two new Turbopower engines in the "71" series. These are six-cylinder vertical and four-cylinder inclined Diesels of 271 and 197 shaft horsepower, respectively.

In these models, exhaust-driven turbines and air impellers, working with the engine blowers, supplement the air supply to the cylinders to effect a 17 percent increase in horsepower, or a 15 percent reduction in fuel consumption. The inclined models have aluminum block and other component parts for lighter weight.

For smaller boats, Detroit Diesel also displayed two of its new Series 71 "C" and "D" models in three- and four-cylinder units. These engines are offered without heat exchangers and with through-shaft, direct drive marine gears as standard equipment.

A newly-designed 6-110 Detroit marine Diesel with front power take-off and high capacity Roots-type blower was shown. Rating of this engine is 220 continuous shaft horsepower at 1800 rpm. Substantial reductions in overall height and length of this engine have been attained.

Detroit Diesel's 87 hp. engine for use in work boats as small as 21', also was exhibited.



Left: Detroit Diesel inclined Turbopower unit, which delivers 197 shaft horsepower at 2300 engine rpm.

Right: Red Wing Meteor "65", a 4-cylinder gasoline marine engine, with 3 1/4" x 4 1/4" bore and stroke, and 141 cubic inch piston displacement.

Goodrich Rubber Bearings for Propeller Shafts

For the 33rd consecutive year, B. F. Goodrich Cutless rubber bearings, distributed nationally by Lucian Q. Moffitt, Inc., were exhibited. The Moffitt organization carries Cutless bearings from 3/4" to 1 1/2" shaft size in warehouse stock. The sizes represent one of the most complete lines of rubber bearings ever available.

Goodrich Cutless bearings are made of oil-resistant rubber, and are not affected by sludges and waste chemicals often found in waters where boats operate. Lubricated by water, the unique bearings repel gritty abrasive particles. The special rubber also resists wear and heat.

Fageol Offers Three Versions of "44" Engine

Fageol Products Co. is offering three different versions of its Fageol "44" marine engine for 1957. These are the V-I-P (vertical-inboard-power); Fageol "44" Outboard; and the "44" Vee-Drive Unit. These all utilize the basic Fageol "44" engine, which is of 4 cylinder in line, 4-cycle design with 2 1/2" bore and 2 1/4" stroke. Compression ratio is 9:1.

One of the principal features of the 35 hp. V-I-P is its high power to weight ratio. Position of the 180-pound V-I-P at the stern creates more usable boat space. Drive is transmitted through a dog type clutch to aircraft style bevel gears, thus eliminating clutch, transmission and shaft log used in ordinary inboard installations. In addition to the present model, a 45 hp. supercharged V-I-P will be available later in the year.

The Fageol "44" Outboard, weighing 190 lbs., features a new, streamlined hood and a number of mechanical changes to improve performance and economy. Both the V-I-P and "44" Outboard have the new patented Fageol "One Arm Bandit" remote control, with a single lever shifting gears and accelerating—forward and reverse.

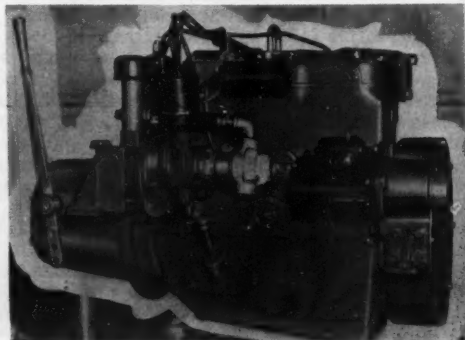
The Fageol Vee-Drive "44" is offered in 30 hp. standard models, 35 hp. dual carburetion units and 45 hp. supercharged engines. Weight is 160 lbs.

Red Wing Offers New Gasoline Engine

A new six-cylinder gasoline engine, the Meteor "100", highlights the 1957 line of Red Wing marine engines. The Meteor "100" is light and compact, and has a bore and stroke of 3 7/16" x 4 1/4", and 230-inch piston displacement. It offers such standard Red Wing features as fully enclosed flywheel, full pressure lubrication to all working parts, and a seven main bearing crankshaft. Red Wing's manifolds are now warranted to last seven years, and salt water corrosion is covered by the guarantee.

Also announced by Red Wing is increased horsepower in the Meteor engine line. The "110" now offers 115 hp., the "150" is increased to 160 hp., and the "60" now is rated at 65, all without additional engine weight. The 4-cylinder "20" is another Red Wing Meteor engine.

A new specially designed spherical combustion chamber which minimizes exhaust smoke, is a feature of the Red Wing Diesel D4-45 and the D6-100. In addition, these engines have counterbalanced crankshafts, full pressure lubrication and complete fresh water cooling systems.



Edo Marine Electronic Equipment

Edo Corporation exhibited their latest models of marine radar, loran, fish finders and depth sounders. Edo Loran is a compact, direct-reading, 28-tube unit from which a fix can be obtained in a matter of seconds, regardless of weather or sea conditions.

Edo Radar is designed for long or short-range navigation in any weather. Cathode ray tube display gives a clear picture on 1, 2, 5, 10 and 20-mile range scales. Patented slotted waveguide antenna, mounted on transmitter, assures precise definition. The equipment is ideal where space and generator capacity are limited.

An echo-sounding fish finding device, the Edo Fishscope, is available in three versions for deep and shallow fishing. It spots fish on cathode ray tube at depths to 400 fathoms, then magnifies any 10-fathom sector 20 to 40 times for clearer view. Its compact design incorporates single transducer.

A Sonar unit in wide Navy use, and now available commercially, is the Edo Deep Depth Sounder. Clear indication of depth is given on cathode ray tube on two scales—0-100 feet; 0-100 fathoms. Depth is recorded continuously on three scales: 0-600 feet; 0-600 fathoms; 0-6,000 fathoms.

Socony Revises Cruising Guide Maps

Socony Mobil Oil Company has revised its four cruising guide maps, with coastlines highlighted so that detail is more easily followed. These maps feature the radio beacon system and color sketches of lighthouses from Long Island Sound to San Diego Bay. Information for easy reference includes frequencies and time of radio-telephone weather reports, storm signals and a chart showing distance between ports.

The new "Mobil Boating Book" has sections devoted to the proper operation, maintenance, fueling and lubrication of inboard and outboard engines. A special section emphasizes boat safety and rules of the waterways.

Other items distributed by Socony Mobil include a 12-month calendar for large craft, giving New York and Boston tides; a pocket tide table for smaller boats; a mail port directory; a comprehensive list of sources for chart and cruising information; and a bulletin giving details of the refunds which are available from the gasoline tax.

Pettit Paint Introduces Six New Colors

Six new Pettit paint colors bring to 40 the number of shades in Pettit's colorful line of Shipendec and Small Boat paints. The new colors include White Foam, Suntan, Sunset, Green Spray, Lemonade and Platinum. Other recent color highlights are the brilliant Tahiti Coral and Pink Cloud.

Special bottom paints offered by Pettit Paint Co., manufacturers of marine paints and varnishes since 1861, include Red and Green Copper; Special Red Copper; Coppercide; Tropicop; Vinylcide; and anti-fouling Copper Bronze.

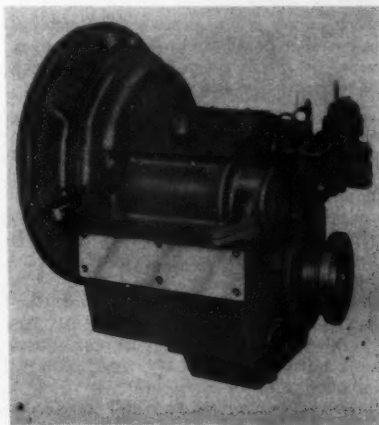
Nordberg Provides Compact Power Package

The 1957 line of seven "Nordberg" gasoline marine engine models is designed to meet the many individual requirements of boat owners for a compact power package. The 155 hp. Knight tops the "Nordberg" line, followed by the 130 hp. Tarpon, 110 hp. Marlin, 110 hp. Bullet, 105 hp. Bluefin, 95 hp. Arrow and 60 hp. Colt.

The six cylinder Bluefin now produces 105 hp. at 3400 rpm., a 10 per cent increase over last year's model. The Bluefin was redesigned to meet the increasing demands for a low priced engine of greater horsepower, higher speed and shorter overall length.

In addition, "Nordberg" continues to meet the power requirements of commercial boat operators with a line of heavy duty engines. These engines are equipped with the exclusive "Nordberg" Sta-Nu-Tral clutch and offer the widest range of power take-off options available in the field.

Edo Fishscope, an electronic fish-finder available in three models, with ranges of 0-500 feet, 0-250 fathoms or 0-400 fathoms. Fish are located by sonar and are shown on the cathode ray tube in the center of the instrument.



New Snow-Nabstedt 3971 reverse-reduction gear. The S-N 3900 series of marine transmissions have a capacity of 500 hp. at 1600 rpm., and standard reduction gear ratios up to 5:1 are offered.

Snow-Nabstedt Exhibits New Heavy-Duty Gear

The Snow-Nabstedt Gear Corp., manufacturers of S-N and Joes gears, featured the new S-N 3900 series of reverse-reduction gears. These compact marine transmissions have a capacity of 500 hp. at 1600 rpm., and standard reduction gear ratios up to 5:1 are offered.

The gears are well suited to the new, powerful, high-speed Diesel engines, and it is claimed that they will give equal life in either forward or reverse at input speeds up to 2000 rpm. Tubing and all pipe connections on the pressure side of the hydraulic system is significantly absent from these gears. The advantage of mounting the oil pump, selector valve, by-pass oil relief valve and the insert seals in one adapter, for ease in servicing, is evident.

The S-N 3900 transmissions operate with finger-tip control, and light remote controls can be easily installed. The clutches are designed so that the clutch which is idling has double clearance, which is important in reducing clutch drag and power losses.

American Brass Shows Propeller Shafting

A 700-pound Tobin Bronze shaft, keyed and filleted according to the latest SAE standard marine propeller shaft end dimensions, was shown by The American Brass Co.

Other Tobin Bronze and Tempaloy (aluminum bronze) shafts in graduated diameter sizes were shown. The Tempaloy shafts are used for high speed or heavy duty work which requires maximum shaft strength with comparatively light weight.

Everdur, the original copper-silicon alloy group, was exhibited in the form of corrosion resistant deck and hull fastenings; and mast, spar and deck fittings. A welded Everdur fuel tank also was displayed.



Columbian Bronze Corp. operates this continuous electric furnace for slow melting of manganese bronze used in manufacture of its marine propellers. The low frequency unit produces purified metal of high tensile strength and improved ductility, with high resistance to corrosion, wear and damage. Columbian claims "electralloy" wheels are more easily repaired.

Pearce-Simpson Exhibits New Radiotelephones

Pearce-Simpson showed several basic radiotelephone models, including the "Islander 30", 28 watts input, and the "Atlantic 70", 70 watts input, both of which are 5-channel radiotelephones incorporating broadcast band reception. Their "Carib 130", 130 watts input, is an 8-channel marine radiotelephone covering frequencies between 2 and 6 megacycles.

The Tiffany Sparkshields, of Pearce-Simpson manufacture, are designed for the elimination of noise interference. They presently are available for most marine gasoline engines, and can be installed quickly and without need for technical knowledge.

Bowers Offers Higher Capacity Batteries

Marine batteries with higher ampere-hour ratings but without any increase in battery size are now possible because of a new active material that has been developed by the Bowers Battery & Spark Plug Co. The new, higher capacity batteries are available in all voltages and in a complete range of space-saving sizes to 1020 amp. hrs.

For outboard starting purposes, Bowers offers a choice of six batteries. The BA series for 12-volt outboard starting have an aluminum container and cover protecting the hard rubber case, and are available in two sizes—29 and 39 ampere hours, at the 20-hour rate. The B series are similar to the BA series, with the exception that they do not have the aluminum container. There are three 12-volt batteries in the B series—rated at 39, 31 and 29 ampere hours. For six-volt starting, the Bowers 100 ampere-hour Type 130MH, with carrying handle, is provided.

New Rootes-Lister 3-Cylinder Diesel

Lister-Blackstone showed for the first time its Rootes-Lister TSM-3 Diesel engine, rated 77 hp. at 1800 rpm. This is a 3-cylinder, direct injection, horizontally opposed piston, water-cooled, two stroke Diesel, with a blower assisted scavenge system. The height of the engine from the marine type bearers is only 27.3 inches, and weight of complete propulsion unit with reverse gear is 1585 lbs.

The Lister Freedom Range of water-cooled marine Diesel engines, developing 9 hp. per cylinder, was represented by an FRM3GR, 3-cylinder engine, fitted with gearbox and reduction gear. Also shown was a cutaway FRM4GR, 4-cylinder Diesel. These engines are manufactured in sizes from 1 to 6 cylinders.

Exhibited for the first time were the Lister LDM-1G single cylinder and LDM-2G twin cylinder air-cooled Diesels. These are rated 3½ hp. and 7 hp., respectively, at 1800 rpm.

Lister-Blackstone's range of propulsion and auxiliary marine Diesel engines runs from 3 to 600 hp.

Petter Exhibits Air-Cooled Diesels

The Petter Engine Division of Brush Aboe, Inc. featured air-cooled Diesel marine engines. These engines are produced in single and two cylinder sizes, and have an output of 6 continuous horsepower per cylinder.

Petter displayed an AVA1RM single cylinder air-cooled marine Diesel, fitted with reverse gear and rated 6 bhp. at 1800 rpm.; an AVA2RMR twin cylinder air-cooled Diesel fitted with reverse and 2:1 reduction gear, developing 12 bhp. at 1800 rpm.; and an AV2RMR twin cylinder water-cooled marine Diesel, rated 12 bhp. at 1800 rpm., and fitted with reverse and 2:1 reduction gear.

Petter also showed one of their small 1500-watt, flange-mounted generator sets, powered by a PAZ1 engine and using a Winpower 32-volt DC generator.

Bludworth Displays New Kelvin Hughes Radar

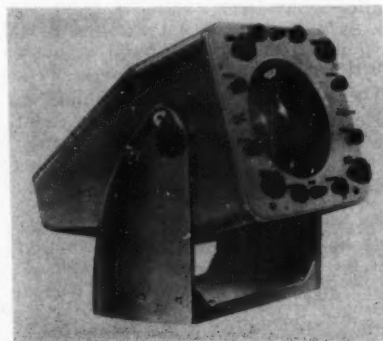
Bludworth Marine, exclusive United States sales and service representatives for Kelvin Hughes radar, introduced the new, low-cost Type 14 marine radar, which affords high performance standards in a greatly simplified assembly. Bludworth also showed a new portable survey depth sounder, weighing less than 40 pounds complete.

The ES 116 depthometer large vessel system has been further improved by Bludworth, and can be installed with the vessel in the water and without hull cutting. The "Kingfisher" depth sounder combines a super-sensitive echo recorder with echo vision. Bludworth's ES 121 B is a light-weight, compact depth sounder with ranges from 2 to 200 feet.

Also shown was the new Kearfott Gyro Guide Directional Gyro Compass Aircraft System. This unit can be engineered to marine use when space is critical and exceptional accuracy is desired.

The medium-range "Communicator" BRT 1025 radiotelephone with four transmitting and receiving channels and tunable broadcast receiver is offered with improved design.

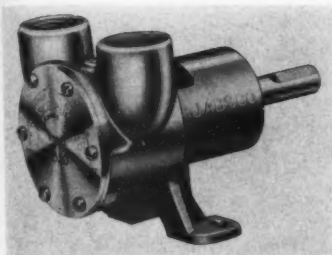
Bludworth showed the "Port Pilot" portable, self-contained precision direction finder, and the Mari-Guide direction finder with inside loop, Model DF 1029 A. An outside loop version, Model DF 1030 A, also is available.



New Kelvin Hughes marine radar Type 14, which is handled in this country by Bludworth Marine. The new instrument affords high performance standards in a greatly simplified assembly.

Lister LDM-1G air-cooled marine Diesel, rated 3½ hp. at 1800 rpm. This model is a one-cylinder engine.

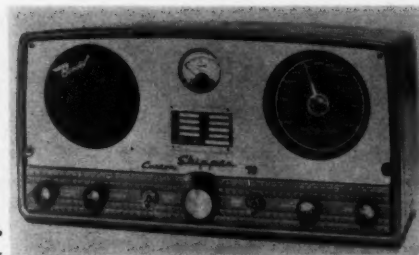




New Jabsco Model 5330 pump.



White Corvette compass.



New Bendix Custom Series "Skipper" radiotelephone.

New Jabsco High-Speed Pumps

Jabsco Pump Co. announced their new vertical port, self-priming pump series: Models 5320— $\frac{3}{4}$ " ; 3890— $\frac{1}{2}$ " ; 3890-01— $\frac{3}{4}$ " ; and 5330—1" port sizes. These units are designed for both low or high speed operation with pulley or direct motor drive, and are equipped with ball bearings sealed and lubricated for long life.

The new pumps combine all of the outstanding features applicable to Jabsco pumps, such as compactness and servicing without removing the pump from installation, and one moving pumping part. All metal parts are constructed of marine bronze.

Jabsco displayed its special self-priming marine engine pumps, foot and flange mounted models for raw water cooling. Also shown was the standard line of self-priming rotary pumps with the neoprene impeller in bronze construction, both plain and ball bearing models, in sizes $\frac{1}{8}$ " to 2 $\frac{1}{2}$ " ports, with capacities 2 to 135 gpm.

Hudson American Has New Telephone

A complete line of marine radiotelephones, ranging in power from 15 to 120 watts, is offered by Hudson American, a Division of Dynamics Corporation of America. Most advanced of the Hudson American telephones is a new and as yet unchristened set offering eight channels and a power rating of 120 watts.

Hudson American's 40-watt Corsair III radiotelephone has six channels in addition to the standard broadcast band. Their Crusader II is designed for medium-sized commercial fishing craft, and has a power rating of 65 watts. It offers six pre-tuned, crystal controlled operating frequencies in addition to standard broadcast band. Both telephones have new antenna coupling.

The Hudson American Privateer V is a low-priced radiotelephone made entirely of aluminum and weighing just 25 pounds. This telephone is only 8" high, 13 $\frac{3}{4}$ " wide and 9 $\frac{3}{4}$ " deep. It is equipped with a completely new vibrator power supply.

The 120-watt Mariner IV has seven channels and broadcast band to give wide selectivity.

Wilfrid White Shows New Automatic Pilot

Wilfrid O. White & Sons, Inc. introduced their new low-priced Mark II automatic pilot for boats up to 55 feet. This compact automatic pilot consumes little current, and no warm-up time is required. It operates on 12 or 32 volts, and has a specially designed compass unit with built-in corrector system for the removal of deviations. A 25' cable provides remote control.

Another new item offered by Wilfrid White is the Corvette spherical compass, designed especially for outboard boats. It has a 3 $\frac{1}{2}$ " easy-to-read card, Lucite dome, and is instantly demountable from its special bracket.

White's Constellation Express compass, with its 5" spherical, has the patented internal gimbal ring construction, built-in corrector system, movable visor for eliminating glare, and shock mounts. The Corsair compass for small craft features Navy red lighting, and is claimed to be steady in all kinds of weather. There is a special model for steel boats.

The White Model "D" echo depth sounder records 30 soundings every second, at depths from 2 to 80 feet. The

instrument can be installed with the boat still in the water.

Bendix Offers Four New Telephones

Bendix showed their new Custom Series "Skipper" radiotelephones, which combine modern styling with simplicity of installation, operation and maintenance. There are four models with outputs of 28, 42, 70 and 120 watts. The 28 and 42 watt output models have 6 channels and the 70 and 120 watt output models have 8 channels.

The Bendix "Navigator 400", a new low-cost and compact radio direction finder which features push button tuning on all three bands—broadcast, marine and beacon—was announced. Other Bendix equipment featured included radar, automatic pilots, depth recorders, depth indicators, and the new portable electric generator and electric outboard tachometers.

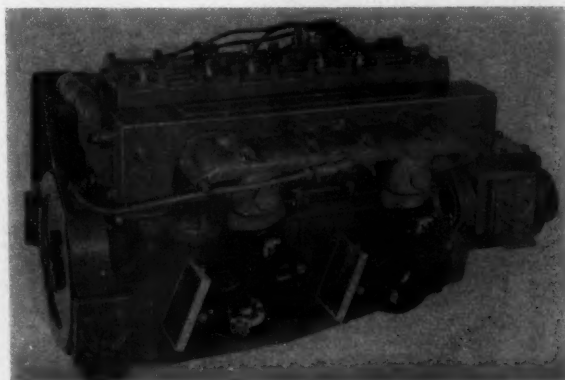
Improvements in Chris-Craft Engines

Important features incorporated in 1957 Chris-Craft marine engines include modified combustion chambers for improved performance. Valve rotators are standard on most models to prolong engine and valve life. New crankcase ventilating valves are incorporated to insure a flow of fresh air through the crankcase to carry off vapor, assisting in the prevention of sludge and acid.

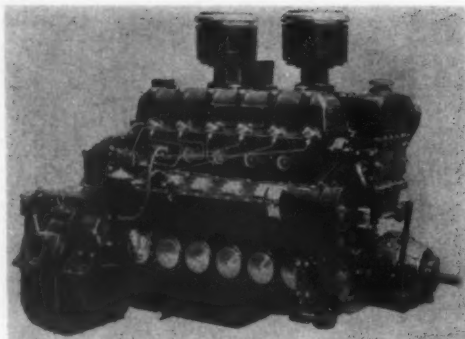
For 1957, Chris-Craft offers the direct drive 60 hp. Model "A", and the Model "B" series, in direct drive and two reductions. The "A" and the B-direct measure less than 32" over-all and weigh only 456 lbs. The 95 hp. Chris-Craft "K" and a 105 hp. "KL", are available in reductions of 1.5:1 and 2:1, in addition to direct drive.

Chris-Craft's 130 hp. "M" series and the 175 hp. "MCL" series are offered in reductions of 1.5:1 and 2:1. The Chris-Craft 200 hp. "WB" attains maximum horsepower at only 3200 rpm. and can, therefore, swing larger wheels. The compression ratio is 6.48:1, and piston displacement is 404.3 cu. in. Reductions of 1.5:1, 2:1 and 2.5:1 are offered.

Chris-Craft's new 131 hp. KFL has two updraft carburetors, which replace three downdraft carburetors.

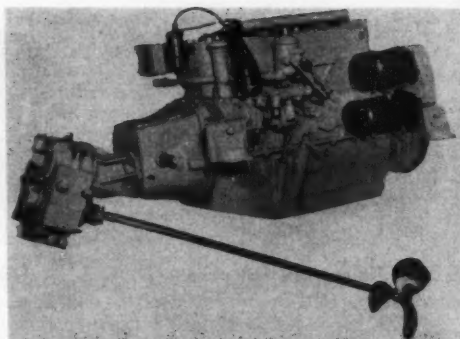


New lightweight 175 hp. Chris-Craft marine engine.



Left: Lightweight P&H 6-cylinder marine Diesel built by Harnischfeger Corp.

Right: Model OKVD Universal Aqua-Pak 100 hp. V-drive engine.



P&H Diesels Feature Aluminum Construction

The lightweight, compact 2-cycle P&H Diesel engine built by Harnischfeger Corporation is available in 2, 3, 4 and 6 cylinder models which produce 30 to 255 hp. Aluminum alloy is used for the crankcase, all structural parts and all housings, in order to reduce weight. The aluminum construction also permits fast heat dispersal, which results in longer engine life.

P&H fuel injection is automatically retarded from starting to 500 rpm., and then gradually advanced to match increased operating speeds. The simplified injection system eliminates the need for timing each individual injector.

For easy repairs, the entire power assembly, consisting of cylinder head, liner, exhaust valve assembly, piston and rod, is built as a single unit. It is claimed that this compact unit can be completely removed and replaced in 30 minutes without dropping the oil pan or touching the engine's mountings.

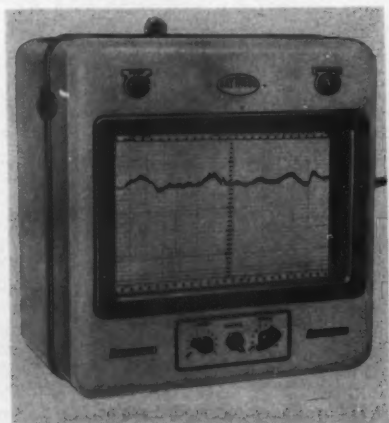
For thorough cooling, the cylinder liner is the "wet" type and is completely immersed in circulating water. The cylinder head, which is made of cast iron and provides an extra large cooling area, contains Stellite valves and valve seats, self-dampening, double-coil springs and replaceable valve guides.

Raytheon Features Depth Sounder Line

A leader in the Raytheon "Fathometer" echo depth sounder line for 1957 is the DE-116, an indicator type instrument with two depth ranges, 60 and 120 fathoms. The Raytheon DE-112 boasts large chart paper and an oversized window to permit extreme detail in readings. Model 1373 meets all needs for fishing, with ranges of 0-400 feet and 0-200 fathoms.

Another model, the DE-103, offers dual range reading of 12-300 feet and 300-600 feet, or 2-300 fathoms and 300-600 fathoms. Raytheon's DE-102 for larger vessels charts high sounding rates for detailed observations.

The DE-119, a portable recorder type sounder which



Raytheon DE-103 "Fathometer" depth sounder offers dual range reading of 12-300 feet and 300-600 feet, or 2-300 fathoms and 300-600 fathoms on chart speeds of 12 and 30 inches per hour.

operates from a 6-volt DC storage battery, charts depths to 240 feet with extreme accuracy in four operating ranges. For small boats, Raytheon's new DE-122 provides depth readings from 2 to 120 feet.

The Raytheon Model 1500 Mariner's Pathfinder radar spots hazards as far as 32 miles distant, and the set's minimum detection range is less than 50 yards. It boasts a large 10" diameter scope. Also available is a radar reflector for small boats.

Six radiotelephone models are offered by Raytheon, including the new "High Seas" telephone for long-range communication—2,000 to 3,000 miles. Other new Raytheon products include a new throttle control.

Universal Offers New 100 Hp. Aqua-Pak

Universal Motor Company's Aqua-Pak V-drive series has now been broadened to include a 100 hp. model, making a total of four horsepower sizes—25, 65, 100 and 145 hp. The new Aqua-Pak offers the advantages of compact stern installation and four-cycle efficiency.

Other Universal marine engines include the 145 and 130 hp. Super Six series, which have several improvements. The Super Six series has a cubic inch displacement of 340. Two Universal engines with 260 cubic inch piston displacement are the 110 hp. Sea-Lion Six and the 90 hp. Cruiser Six.

Now developing 110 hp. at 3200 rpm. with 237 cubic inch displacement, the Universal Master Six weighs less than 700 lbs. The Explorer Six, developing 100 hp., has nearly equal bore and stroke. Both engines are only 40 1/4" over-all.

The 65 hp. Unimite Four has 141 cubic inch displacement and over-all length of under 32 inches. Universal's 50 hp. Super Four has further refinements, and their Blue Jacket Flexifour delivers 45 hp.

The 25 hp. Atomic Four has 65 cubic inch displacement, weighs 314 pounds and is only 26 inches long. Rounding out the Universal line are the 25 hp. Utility Four, with 95 cubic inch piston displacement, the Universal Blue Jacket Twin of 12 hp., and the single-cylinder, 8 hp. Fisherman.

New Marine Fire Extinguishing System

A new non-electric automatic fire extinguishing system, unveiled by C-O-Two Systems Division of The Fyr-Fyter Co., features a newly developed cylinder valve and an automatic non-electric "rate-of-rise" actuated control head which does not require power from any outside source. This means that the protection from fire is provided, even on a "dead" ship. The "rate-of-rise" control head is connected directly to the cylinder valve for fast and positive action in the event of a fire.

Operation of the system can be manually checked without discharging the carbon dioxide cylinder. No replacement parts other than the recharge of the carbon dioxide cylinder are needed, thus eliminating "on board" spares.

RCA Introduces New Radiotelephones

Radio Corp. of America featured its new 6-channel VHF radiotelephone (ET-8058) and auxiliary receiver (AR-8519), for smaller commercial vessels, which provides six remotely controlled FM channels in the 148-to-174 megacycle band. The equipment can be operated with six "simplex" channels, using the same frequency for transmitting and receiving, or with "duplex" channels, transmitting on the frequency and monitoring on another.

RCA also introduced its ET-8060, a new 150-watt radiotelephone for ship-to-ship and ship-to-shore service. The new type AR-8714 Radiomarine direction finder features a special "sense" switch to enable the user to determine more rapidly whether the bearing is correct or 180 degrees reciprocal.

A line of antennas designed specifically for complementary use with Radiomarine "Golden Series" radiotelephones was introduced. The RCA antennas are available in 12-, 18-, and 24-foot sizes.

In addition, the RCA exhibit featured the Echograph, three-range depth recorder; "Radiomarine" radar; loran; and electronic fish finders.

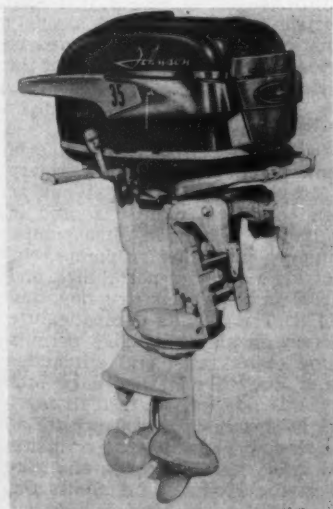
Johnson Has New 18 and 35 Hp. Outboards

A peak-charge generator for electric-starting outboards, and an end to shear-pin troubles are among new developments announced by Johnson Motors for its 1957 models. There are two new motors, of 35 hp. and 18 hp., replacing the 30 hp. and the 15 hp. models.

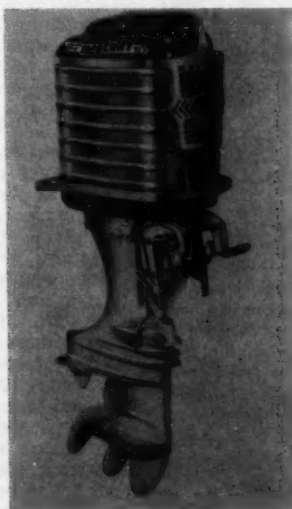
Both the 35 and 18 hp. Johnson motors are built in manual and electric-starting versions, with the electric 35 additionally available in the chrome-trimmed "Golden Javelin" model, finished in iridescent gold and white. It is claimed that pull-cord starting in the new 35 requires less physical effort than usually is needed for outboards of one-half as much horsepower, due to an automatic compression-relief system.

Rounding out the Johnson 1057 line of nine motors in six power sizes are engines of 10, 7½, 5½, and 3 hp. Of particular interest to big-motor owners is application of the automatic propeller slip-clutch to all Johnson outboards, eliminating the necessity of replacing shear-pins in the 10, 18, and 35 hp. motors, as well as the low-horsepower sizes. Also new on all motors is an edged device to protect the propeller shaft from entanglement in fish-lines.

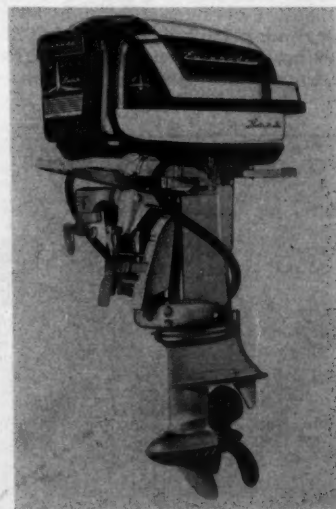
Installation of electric-starting models of the Johnson 35 and 18 is simplified in the 1957 motors by plug-in wiring connections. Both will operate from a 12-volt battery instead of the 6-volt system of the Sea-Horse 30 and 15.



Johnson's 35 hp. Golden Javelin.



New Mercury 60 hp. outboard.



The 35 hp. Evinrude Lark.

100-watt Radiomarine Golden Herald telephone.



Mercury Shows Mark 75 Outboard

Twelve models covering the widest horsepower range in outboarding history—from six to sixty—were shown by Kiekhaefer Corporation, manufacturers of Mercury Outboard Motors.

Newest addition to the Mercury line are the all new Mark 75, a high-styled, six-cylinder power plant, rated at 60 horsepower—the world's most powerful production outboard; and the advanced design Mercury Mark 10, in the 10 horsepower, fast-fisherman range.

Other Mercury models are the Mark 6, rated at 5.9 hp.; the Mark 25 and 25 Electric, rated at 20 hp.; the Mark 30 and 30 Electric, rated at 30 hp.; and the Mark 55 and 55 Electric, rated at 40 hp. In addition, Mercury has three 1957 competition models—the Mark 30H, Mark 55H and Mark 75H.

The Mark 75 boasts a six cylinder-in-line, all die-cast engine of 59.4 cubic inches of piston displacement. It is produced in electric starting models only, but carries a manually operated starter as a safety feature.

It is equipped with the exclusive Mercury generator that keeps a 12-volt battery fully charged at all times. Simplified single-level control makes the big power plant exceptionally easy to operate. Throttle, forward and direct reverse are all on one fingertip remote control.

The new Mark 10 provides forward, neutral, reverse and speed control all in the tiller handle. An exclusive Speed-r-Troll Switch makes possible day-long trolling at steady, super-slow speeds, and its load torque safety spring transmission banishes shear pin worries.

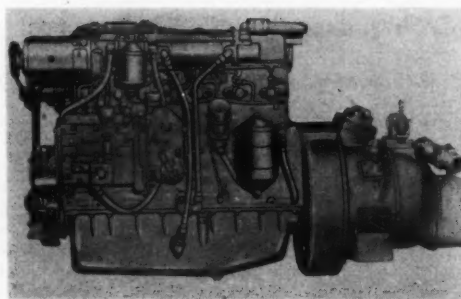
Evinrude Offers Nine Outboards for 1957

Heading Evinrude's nine motor line for 1957 are three new 35 hp. outboards, two of which are electric-starting, with automobile-type generator as optional equipment.



Left: Hercules Model DIX6ES marine Diesel, which has a low weight to horsepower ratio. It has 150 hp. and weighs 1490 lbs.

Right: Allis-Chalmers Model 6DAMR-273 lightweight, 6-cylinder marine Diesel, rated 85 shaft horsepower at 2800 rpm.



The 35 hp. Evinrude outboards include the rope-starting and electric-starting Big Twins and the electric-starting, deluxe Lark, which replace the three 30 hp. motors of the 1956 line.

A new starter motor employing 12 volts in the same space as previously used six volts, has been designed for Evinrude electric-starting outboards. The 12-volt system makes it easier to start outboards by developing greater torque and cranking ability. There is a new corrosion-resistant, electrical plug-in connector, permitting easy removal of the motor from the boat. A new air silencer and a new system of reduced compression on the Big Twin make it as easy to start as motors half its size.

Also introduced by Evinrude are two new 18 hp. Fast-win motors, including electric-starting and rope-starting models, both with the new slip clutch which eliminates changing shear pins.

Propellers on the Evinrude outboards also have a weed cutter that tears or cuts stringy weeds or line attempting to wrap around or work between the propeller and gear case. The Evinrude outboards are salt-water-proofed throughout, and require no fresh water flushing at any time during a season.

Hercules Announces Three New Diesels

Three new Hercules marine engines have been announced, including a four-cylinder Turbocharged Diesel of 198 cubic inch displacement, a six-cylinder Turbocharged Diesel of 283 cubic inch displacement, and a two-cylinder natural-aspirated Diesel of 127 cubic inch displacement.

A line of marine Diesels ranging in size from 12 to 500 hp. is manufactured by Hercules Motors Corp. These engines feature compact size, lightweight design and are produced for high-speed, heavy-duty service.

Specifications of Hercules Diesels now available, are as follows: Model DIX4E, 4-cylinder, 75 hp. at 3000 rpm.; Model DIX4ES, 4-cylinder, 95 hp. at 3000 rpm.; Model DIX6E, 6-cylinder, 105 hp. at 3000 rpm.; Model DIX6ES, 6-cylinder, 150 hp. at 3000 rpm.; Model DFXH, 6-cylinder, 250 hp. at 2100 rpm.; and Model DNX-V8DTS, 8-cylinder, 500 hp. at 1800 rpm.



Marine Products Company's Flomax Model 14300-C 2" pump, weighing only 73 pounds in iron and delivering 8400 gph. at a 10-foot lift. For use as a wash-down pump, this Flomax model will deliver over 25 gpm. at 35 p.s.i.

Standard features of Hercules Diesels include hydraulic reverse gear, direct drive, propeller coupling, and sheave-type power take-off. The Hercules Diesels run satisfactorily on either No. 2 or No. 1 fuel oil.

Allis-Chalmers Shows Lightweight Diesel

The Allis-Chalmers Buda Division featured its Model 6DAMR-273 lightweight, 6-cylinder marine Diesel engine, which delivers 85 usable shaft horsepower at 2800 rpm. Weighing under 1000 pounds, complete with marine gear, this compact engine has a 3 3/4" bore, 4 1/4" stroke and a 273 cu. in. piston displacement. Its lack of noise and vibration and minimum maintenance requirement make it well suited for powering small fishing craft.

The Allis-Chalmers display also included a Model 2BDG-77 Diesel engine generator set and a BDA-8A, 7 1/2 kw., 60 cycle, 60 single phase, 120-240 volts, 3 wire generator.

Federal Paint Features Color Selector

At its exhibit, The Federal Paint Company, Inc., featured the firm's popular audience participation assembly, the Federal Color Selector. Among the various Federal products is Federal Special Tropical HST (High Toxic Strength) which gives long lasting protection against marine growth. It is a high-copper content paint, chemically perfected, and proven through actual in-use tests.

Stewart-Warner Displays Instrument Panels

The "Skipper", a compact and moderately priced marine instrument panel, was exhibited by the Instrument Division of Stewart-Warner Corp. Available in three models, the "Skipper" is an "all-in-one" panel containing water temperature, oil pressure and fuel level gauges and a tachometer with odometer-hourmeter.

Other Stewart-Warner products shown included mechanical, electrical and portable techometers; fuel level, oil pressure, water and oil temperature gauges; electric oil pressure and temperature gauges, ammeters, fuel level and vacuum gauges; electric fuel pumps; and a safety panel designed to automatically shut off unattended or remotely controlled engines in the event of failure of the lubricating or cooling systems.

Marine Products Features Flomax Pumps

Marine Products Co. displayed their complete line of Flomax self-priming centrifugal, and Duraflex rotary pumps, as well as the MP straight centrifugal pumps. The Flomax series of engine driven pumps is used in commercial vessels for auxiliary and main bilge pumps, fire pumps, wash-down pumps, fuel transfer pumps, etc.

Flomax pumps are built for maximum portability, and are available in either iron or bronze construction, and in sizes from 1 1/2" to 3" I.P.S. The Flomax pumps feature "Open Adaptor" construction on all sizes. This permits the use of standard engine crankshafts, and eliminates unnecessary engine repairs due to water seepage into the crankcase.

With performance from 5800 gph. to 15,900 gph., Flomax pumps give the necessary capacity for ordinary bilge work, plus the extra safety needed in case of emergency. The compactness of the Flomax line allows for easy installation in the smallest space, and the design permits "on board" maintenance.

Maine Birdseye Plant, Fleet Bought by Halifax Firm

National Sea Products Limited, a Halifax, Nova Scotia corporation, has completed an agreement with General Foods Corporation for the purchase of the entire Birds Eye operations at Rockland. The sale includes the Birds Eye fillet plant and shipyard, as well as the nine trawler fleet, which will resume operations in the Spring.

C. J. Morrow, president of National Sea Products, stressed that his company will expand and diversify the Rockland operations so as to provide a longer operating period each year. During the past several years, only ocean perch has been handled through Birds Eye's Rockland plant.

The Canadian firm will buy from operators of independently-owned fishing boats, in addition to operating its own fishing fleet. The Birds Eye shipyard, closed for several years except for repairs to company-owned trawlers, will be opened for general building and repairs.

Roy Wittick, who has served several years as general manager of the Rockland operations for General Foods, will remain with the Canadian firm until Oct. 1. James Braccio will continue as marine superintendent of the fleet, and Tweed Graham will remain as manager of the fillet plant.

Seeks Changes in Clam Laws

Sea & Shore Fisheries Commissioner Stanley R. Tupper will ask the 1957 Legislature to make three major changes in State laws governing clams.

These changes include: (1) repeal of the present two-inch clam law, leaving restrictions as to size to control by the Sea and Shore Department under its clam management program; (2) remove restrictions on interstate shipment of clams in shells and (3) repeal of all so-called town clam laws, leaving responsibility of determining management areas to the Department, as part of the management program.

The Commissioner also will recommend amending the laws making it mandatory for him to revoke a license on a third or subsequent conviction and, pending appeal, making it discretionary with the Commissioner.

Tupper is also seeking two more coastal wardens, equipment for Boothbay Harbor Fisheries Research Station and a new patrol boat.

Rockland to Get Complete Dredging Job

Rockland is going to have its dredging project this Winter and the complete job as originally planned, not the curtailed plan offered recently. According to Senator Margaret Chase Smith in Washington, funds will be available for the work, which may cost as much as \$1,200,000. The channel width of 150 feet will be maintained, and turning basins will be kept to their original size.

Late last month the contract for the dredging project was awarded to the Bay State Dredging Co. of East Boston, and work was expected to begin in about a month.

Lobster Catch Down in 1956

The 1956 lobster catch was off about 4,000,000 pounds along the coast of Maine from the 1955 figure of 22,700,000 pounds. Reason for the decrease, which kept lobster prices high during the late Summer, was the late shedder season.

The lobster catch along the coast last month was about normal.

Seiners and Weirmen Seek Changes in Laws

The Coastal Seiners and Weirmen's Assoc. met in Rockland last month and elected Ralph Byers of Winter Harbor president. Ray White of Kennebunkport was elected vice-president; Albert Barlow, East Boothbay, vice-president; John Dodge, Jr., Owls Head, secretary.

It was voted to recommend that three present State regulations be altered. First will be a move to change the



32' lobster boat "Ethelyn Mae", built recently at South Thomaston, Maine, by the Makinen Shipyards. She is owned by Wellman Hupper of Friendship, and is powered with a 115 hp. Chrysler Crown engine with 2½:1 reduction gear.

present 2000 foot law keeping seiners that distance away from weirs. Members of the Association want the distance lowered to 1000 feet.

They will ask that the methods of measuring holds of sardine carriers be changed. They will recommend that the holds be measured and sealed forward and aft and that the measurements include the area to the top of the hatch.

It was also voted to seek amendment of the four-inch law, which governs the size of fish taken in Maine.

Appointed to Sardine Council

B. H. Wilson of Eastport, owner of the B. H. Wilson Fisheries, was appointed last month to the Maine Sardine Council, to complete the unexpired term of Ralph B. Stevens of Yarmouth, who resigned. The term continues to 1961.

Named Fisheries Statistician

Richard C. Barnard of Warren has received appointment to the Rockland office, U. S. Fish & Wildlife Service, as commercial fisheries statistician. He was employed for nine years as accountant at the fillet plant of the Birds Eye Division, General Foods Corp., in Rockland.

Massachusetts Fisheries Cooperative Gets Million Dollar Loan

The Small Business Administration in Washington has announced that it will make a \$1 million working capital loan to Boston Fisheries Cooperative, Inc. The loan will provide capital to assist the 20 members of the Cooperative to buy fish during the peak production season for immediate processing. The fish will be placed in cold storage for marketing during the year, which is expected to result in lower prices to the consumer and a more stable market.

"A year ago, we decided the most effective way to fight Canadian and Icelandic competition would be to stabilize prices," said Thomas D. Rice, executive secretary of the Massachusetts Fisheries Association. "The loan is a very substantial and constructive step on the road to a normal and healthy condition in the industry."

"Bonnie Breeze" Sinks

The 102-foot Boston fishing vessel *Bonnie Breeze*, Capt. William A. Kinsella, sank 22 miles north of the Texas Tower radar warning station on Georges Banks recently. All 17 crew members abandoned the fishing craft in lifeboats and were picked up within minutes. The ill-fated craft was owned by the Boston Bonnie Fisheries.

Virginia Crabbers Using Zinc Anodes to Combat Pot Rust

About three years ago, crabbers in the Gloucester area of Virginia first learned of an amazingly simple device that prevents corrosion in crab pots. Since that time, replacement costs for crab pots have dropped steadily.

Known as a "zinc anode", the device is little more than a bar of zinc that weighs about a pound, with wires attached to fasten it inside the crab pot. It works by chemical reaction with salt water.

Users say that a single anode will prevent corrosion of the wire mesh construction of the crab pot during an entire season. Aubrey Callis of Summit, N. J., is credited with originating the idea of the zinc anode for crab pots.

Enjoying Good Oyster Season

The J. W. Darling Co. of Hampton is enjoying a good oyster season, according to G. C. Bentley, manager. This is one of the largest oyster shucking establishments in Hampton. It employs 100 shuckers, has four dredge boats in operation to bring oysters to the shucking house. The demand for oysters is excellent, according to Mr. Bentley, with the output this past November being about the same as November 1955.

Although a shortage of oysters was predicted by many, the supply seems to be holding up well and the price is good.

New Menhaden Firm Chartered

The State Corporation Commission last month issued a charter to Virginia Menhaden Products, Inc. of Reedville. Its charter authorizes the corporation to engage in cultivating, catching and processing all types of fish, and carrying on a general water freighting business.

Officers of the firm include C. Jackson Simmons, president and treasurer; William B. McLeod, vice-president; Mary D. Sheppard, secretary, all from White Stone.

Reports Good Crabbing

Capt. Randolph Hudgins of the *Loris*, one of the crab dredging boats in Chesapeake Bay, reports that the week beginning December 9 was a fairly good one in spite of the unseasonably warm weather. Warm weather keeps crabs off the bottom, but the smaller catches were compensated for by the rise in the price of crabs from \$5 per barrel to \$6.

T. T. Richardson, manager of the G. W. Amory Crab Processing Plant in Hampton, reports that last year the company's Winter dredge boats produced the most bountiful crop of crabs the firm ever experienced. The average

output of the plant this year before Winter dredging began was 8,000 pounds a week, and the demand for crabmeat is excellent.

Charles Haywood of Mathews County, who operates a crabbing dock on Davis Creek, says that his sons, who fish crab pots in Mobjack Bay and the Chesapeake, all had an excellent year.

Hampton Roads Area Landings

Although fish production in the Hampton Roads area during December 1956 showed a gain of over a quarter million pounds as compared to the previous month, the catch was off by more than a half million pounds when compared with December 1955. Landings for this December were 1,232,700 pounds, and included 41,700 pounds unloaded from pound-netters.

California Has Good Late Albacore Run

Early in December the California albacore season came to life again and continued with good results until just before the holidays. It all started when a few boats fishing 150-200 miles out in the area between San Juan seamount and the Farallone Islands reported finding fish in plentiful numbers.

Many skippers had tied up for the Winter, but on hearing the news they made haste to join other boats in the late season fishing. Reports of 100 to 200 fish a day were frequent, and the men were delighted with the Christmas bonus.

Among the boats in the fleet were the *Rebel*, *Anita Jean*, *Rose Marie*, *Peso II*, *Ragnar M.*, *Ellie IV*, *Hey Mama*, *Marie H.*, *Luwella*, *Elvira*, *Western Skies*, *Bonita*, *Mandy*, *Seawolf*, *Barbara*, *Spirit*, *Agnes II*, *Aquarius*, *Sherman*, *Blue Seas*, *Daisy Bell*, *Hispanola*, *Sawyer*, *Harmony*, *Norma B.* and *Sandra Lynn*.

Vessels Have New Owners

Two "Monterey's" in Moss Landing have new owners. Alex Skinner and Milton Isakson purchased the *Billy Lynn* from William Vogel, and Michael Ruda sold his *Four Roses* to Howard Anderson.

These small boats, particularly suited for the bay and around San Francisco, are becoming scarce. Shipbuilders who turned them out in the 20's and 30's have gone out of business, and none have been built since.

Another boat changed hands when Johnny Cecchini sold his *Lou Anna Alma* to Wayne Martin of Eureka. Martin will use the small dragger for crabbing in Northern California waters. Cecchini accompanied the new skipper to the *Lou Anna Alma*'s home port of Eureka. He will join Sal Cardinale on the bait boat *Sal-Boy*, delivering squid and anchovies to the Santa Cruz cannery in Moss Landing.

Four San Pedro Vessels Lost

During the latter part of the year, four San Pedro purse seiners were lost at sea. A persistent fire that apparently was licked at one time regained its strength in the early hours of Nov. 27, burning the San Pedro purse seiner *American Boy* to the water line as it fished off Malibu Beach. Krist Gradis of San Pedro and his crew of 11 were rescued by the seiner *Progress*, Capt. Frank Foretich, also of San Pedro.

On November 29, the seiner *Sea King* sank 12 miles off Point Vicente when a sea cock opened and the boat flooded before the crew could get pumps working. Capt. John Cvitanich of San Pedro and his crew of 11 were rescued from their skiff by the seiner *Courageous*, Capt. Andrew Kuljis.

On December 6 the seiner *New Home II*, Capt. Nick Mardesich of San Pedro, began taking water while fishing off Oceanside and was abandoned a few hours later. The



Capt. John Lawson's fishing vessel "Resolute" of Newport News, Va., is equipped with a Bendix MR-3 marine radar.

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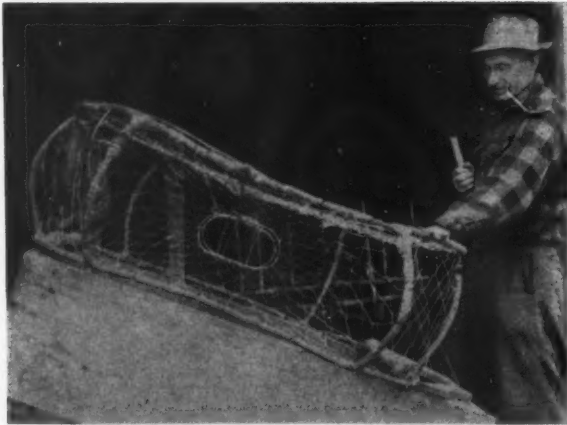
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Oregon crab fisherman Willis R. Short mending his pots.

crew was taken off by the *Santa Lucia*, Capt. Pietro Pugliese.

The fourth vessel to go down was the seiner *U. S. Republic*, which suddenly began taking water while fishing about 20 miles south of Point Dume. Capt. Clayton Marsh of Santa Monica and his crew of six were rescued by the seiner *Shanty Girl*, Capt. N. Wolf of Hollywood Riviera.

Monterey Cannery Fire

The largest cannery on Monterey's famed cannery row burned to the ground in a recent spectacular blaze. Destroyed in the fire was the half-block-long San Carlos cannery building, which housed one end of the Peninsula Packing Co.

Conducts Mobile Radio Repair Service

A long-needed service for fishermen is being supplied by Wendell Wheaton with his Wheaton's Mobile Radio Service. Wheaton is licensed by the FCC, and specializes in repairs on Kaar, Bendix and Apelco radios and direction finders.

In his panel truck equipped with all facilities, he makes the rounds from Santa Cruz to Monterey.

Crew Saved as Vessel Sinks

The fishing vessel *Santa Anna* out of San Francisco sank recently about five miles south of Pfeiffer Point. The skipper, Sam Graddis of Pacific Grove, and his three-man crew, got away in a skiff. The boat started leaking badly after a sea cock apparently gave way.

Sardine Catch Shows Decline

San Pedro's sardine fleet closed one of its poorest "darks" on December 18. During the dark the fleet landed only 3,125 tons of sardines, 84 percent below the 19,750 tons landed in the same dark in 1955. So far this year the fleet has caught 30,600 tons of sardines, as compared to 66,000 tons at the same time in 1955.

Many boats turned to mackerel to replace the sardines, and late last month Southern California fishermen were reported bringing in bumper catches, with the 1956 receipts about double last year's 27,000 tons.

Would Like Earlier Opening of Salmon Season

Because fishing in Monterey Bay is usually good in April, commercial fishermen would like to see the law changed to allow the season to open earlier than the May 1 date.

The sports fishing season on salmon opens February 15, giving the sportsmen a big head start. In the States of Oregon and Washington the season opens April 15. California fishermen would like to see the laws uniform in all three States.

Oregon Troll Salmon Landings Highest in Thirty Years

Troll-caught chinook salmon landings in Oregon this past season were the highest on record since 1922. The high chinook troll take of approximately 4,000,000 pounds was made even though the season opening was delayed 30 days last Spring, in order to give added protection to declining fall chinook salmon runs in the Columbia River.

Silver salmon landings by trollers at Oregon ports in 1956 totaled more than 3,000,000 pounds, which was considered good but not exceptional. Silver salmon troll catches through August this year were higher than the five-year average for the period, but lighter landings were made in September and October, probably due to the switch from salmon to albacore tuna fishing by many boats late in the season.

Fish tagging and fin-marking experiments indicated that Columbia River fall chinooks were concentrated between Grays Harbor and the mouth of the Columbia during early Spring, and were fished heavily during the first part of the trolling season.

Good Beds of Soft-Shell Clams Found

Clam diggers have apparently been overlooking good beds of soft-shell clams in Nehalem Bay, according to a survey made by the Oregon Fish Commission last year.

Charles D. Snow, shellfish biologist, considers the condition of the Nehalem soft-shell beds excellent from the standpoint of size, abundance and quality of clams present. In some areas more than one clam per square foot of bed was discovered. An average of one soft-shell clam per three square feet of bed was found for 4600 square feet of all clam flats checked.

Soft-shell clams were also abundant on 8000 square feet of clam beds on the Kilchis-Wilson River flats in Tillamook Bay. The quality of the Tillamook Bay bivalves from a meat yield standpoint was considered only fair, but these clams had not yet recovered from the effects of spawning.

A third survey of 9500 square feet of soft-shell clam beds at the mouth of the Siuslaw River indicated that fewer clams are present than in earlier years. Experiments are being conducted to see if transplanted soft-shell clams from other bays can be used to help improve the condition of these beds.

Packers Association Has Good Year

Columbia River Packers Association of Astoria has had its best year for production and sales, according to T. F. Sandoz, president. More than a million cases of seafood were packed, and increases were reported in canned tuna and Alaska salmon.

Discuss Columbia River Fishing Regulations

Proposed regulations for Columbia River commercial fishing in 1957 came up for discussion at a public meeting held in Astoria on December 17. The regulations reviewed at the meeting were recommended by the Washington Department of Fisheries and Oregon Fish Commission research staffs, but are in no way final. Final regulations will be enacted after a public hearing this month.

New Fishway Completed

A new \$45,000 concrete fishway at the middle falls on Eagle Creek, 12 miles northeast of Estacada, was announced last month by Jensen C. Clausen, engineer in charge of Columbia River development projects for the Oregon Fish Commission.

Salmon Released in John Day River

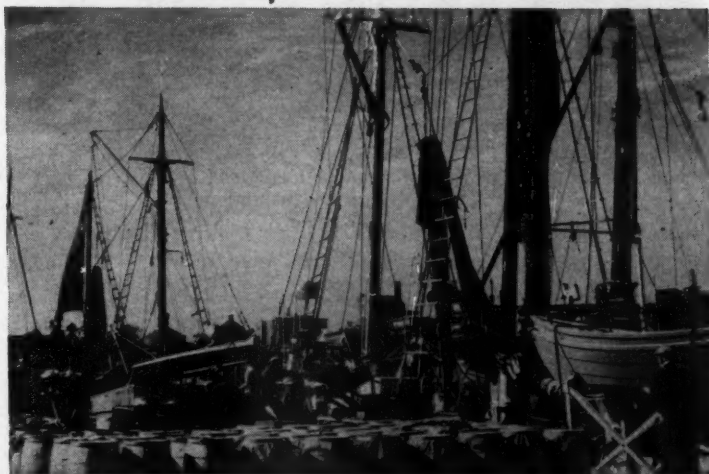
Some 35,000 silver salmon fingerlings were released in the John Day River system recently by the Fish Commission of Oregon. An additional 450,000 early-run silvers will be released in the John Day system next Spring.

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New Bedford Has Record Hail Of Fish and Scallops

Twenty-three scallopers landed 186,400 lbs. of scallops and nine draggers landed 147,000 lbs. of fish the day before Christmas to make a record hail for the year. In addition, three scallopers and two draggers that came in on that day did not sell, but held over until the day after Christmas.

The Katie D., only New Bedford dragger fishing on Christmas day, landed 66,000 pounds of fish which brought a nice price of approximately \$9,700, or about \$500 for each of the 10-man crew.

Elect New Officers

Annual election of officers of the New Bedford Seafood Producers Assoc. was held last month. The following officers were elected: Capt. Mathias Bendiksen, president; Capt. Warren B. Vincent, vice-president; William White and John A. Murley renominated for treasurer and secretary, respectively.

John F. Linehan, general manager for the fishing boat owners' group, was master of ceremonies at the banquet. Guest speaker at the banquet was Congressman Donald W. Nicholson of Wareham.

Elected directors for scallop vessels in the Association were Peder Eiesland, Napoleon Holmes, Jakob Jacobsen, Leif Mikalsen, Shirley Mitchell, John G. Murley, Alexander Smith and Michael Smith.

Elected directors for large draggers were John G. Gobell, Jacob Jacobsen, Leif Jacobsen and Sofus Mortensen.

Elected directors for small draggers were Eric Besso, Paul Mathison, Rudolph Matland, Ernest A. Murley, Harold Nickerson and John A. Sylvia.

Changes in Ownership

Herve E. Tichon of the Tichon Fish & Fillet Co. has bought a half interest in two vessels—the scallopers Rosalie F. and the Catherine C. They are operating out of New Bedford. Capt. Joshua W. Murphy is the other owner in the venture.

The fishing vessel *Jorgina Silveira* was sold recently to Domenic Novello of Gloucester.

Fish Production Increases

Fish production in November was up slightly from that of a year ago, and prices also increased. Vessels produced 3,744,600 pounds of fish and scallops in November, as compared to 3,722,100 pounds in November, 1955.

Trash fishing was down during the month, as several boats reconverted back to fishing for edible species. Forty-eight trips yielded 2,097,000 pounds during November.

Approximately 943,400 pounds of

scallops were landed in November by 65 scallopers that made 120 trips.

Fire Alarm Device Saves Boat

Capt. Mathias Bendiksen of Fairhaven claims his 83-ft. fishing vessel the *Cap'n Bill II* would have been in serious trouble if it hadn't been for his Homatic Fire Alarm System. The *Cap'n Bill II* was approximately 50 miles east of Pollock Rip Lightship when a short circuit started a fire.

The skipper and crew were asleep when the fire alarm system rang, warning of the fire outbreak in the engine room. The blaze had already reached the base of the engine and was about to ignite fuel and oil. A 10-pound and two 25-pound fire extinguisher chemical bottles were emptied on the blaze, which was put out.

The fire alarm device is a system of warning bells, contractors and wires installed throughout the vessel. Controlled by a thermostat, it sounds warnings when temperatures reach 165 degrees.

Joseph W. Lajeunesse of New Bedford, a retired fireman, invented the device in 1952. More than 40 New Bedford fishing vessels are equipped with the system.

Dragging in Clarks Cove

The City Council by a 10-1 vote last month overrode Mayor Lawler's veto of a council-adopted order which opened an area of Clarks Cove to quahog fishermen. The Mayor's veto of the order was based on reports that dragging by quahoggers damaged scallop seed in the cove.

Tobias Cabral, city shellfish warden, said he had instructed quahoggers to stay south of the established line, but that fishermen were confused since a buoy used as a point guide was constantly moved.

Fish Tagging Trip

The fishery research vessel *Albatross III* returned to Woods Hole late last month after a week's cruise to Georges Bank to tag codfish and haddock. Over 800 fish were caught in otter trawls and tagged on Georges Bank north of 41 degrees 21 minutes north latitude and east of 67 degrees 40 minutes west longitude.

Only the fish that appeared to be reasonably undamaged were tagged.

Murley Buys Two Engines

Capt. John G. Murley of Fairhaven, Mass., has purchased two 300 hp. D375 Caterpillar Diesels, with Snow-Nabstedt 3:1 reduction gears. Sold by Perkins-Milton Co. Inc., the engines are scheduled to go into Murley's scallopers *Fleetwing* and *Charles S. Ashley*.

Cape Cod Firm Does Big Business In Trash Fish

Approximately 7,000,000 pounds of trash fish, used for mink food, have been shipped from the Plymouth Bay Packing Co., Inc. plant at North Truro since it opened in May.

Most of this has been shipped to the Midwest, particularly Wisconsin and Michigan, and was brought in by Provincetown boats. During one week last month nine fully loaded trailers left the plant for Midwest points.

Orleans Scallop Areas Opened

Selectmen on December 27 announced that both Big and Little Pleasant Bay within the town of Orleans would be open for commercial scallop fishing starting on that date. The limit of taking shall be three official "E and O" bags each day for each commercial permit, and not over six such bags for any one boat in any one day.

No person or boat shall make more than one trip in any one day for the purpose of taking the commercial limit, except in case of mechanical breakdown or bad weather, and then only by permission of the shellfish constable.

Future Quahog Supply

Last month the Oceanographic Institution at Woods Hole reported to the 300 Cape Cod commercial quahog fishermen that they may anticipate approximately the same results for their efforts that they have been experiencing since the beginning of the century. However, it was pointed out that the fishermen can expect the usual "ups and downs" of the industry.

There is indication that within the next three or four years it will be possible to develop a method for raising quahogs and other shellfish on a large enough scale to provide stock for a considerable part of the shellfish areas of Massachusetts during the "lean years" when natural propagation does not occur.

Would Ban Shellfish Dragging

Frederick Raddin of Orleans has had legislation introduced in the State Legislature which would prohibit dragging for shellfish in the coastal waters in the town of Orleans.

Rare Fish Caught

A monk fish was caught last month in the nets of the Provincetown dragger Martha Lee, Capt. Sylvester Carter. The fish had teeth and fins like a shark, and measured 41 inches long and 20 inches across.

It is the first of its type ever reported in Provincetown Harbor. The fish usually is found in warmer waters from Florida to the Carolinas.



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MAKERS OF FINE NETTING FOR OVER A CENTURY



The "Liberty", 55' purse seiner which fishes both in Alaska and Puget Sound. Her owner is Capt. Gus Lundberg of Anacortes, Wash., and the vessel is powered with 50 hp. Atlas Diesel. She is finished with International paint, uses Union lubricating oil, and is equipped with Willard batteries and Danforth anchor.

Washington Gillnetters Group Reorganizes and Expands

The Puget Sound Gillnetters Assoc. is being completely reorganized, and at the latest meeting held in Everett, the group voted to establish local units in order that more gillnetters would have a say in the association affairs.

All meetings heretofore have been held in Everett, and it has been difficult to get a representative group out to those meetings. Thus the organization of strong locals is felt to be the best solution.

Under the new rules, it would be required that in any important matters such as policy and election of officers, ballots should be mailed to every paid-up member. Other business, forwarded from the Everett headquarters, would be acted on at local meetings.

Locals are being formed in Bellingham by Bob Lorenzo; in Skagit County by Dave Milholland; in San Juan by Joe Erisman and in the LaConner area by Don Sjogren.

Gillnetters nominated for the presidency are Russ Bonito of Everett and Bob Carlson of Arlington.

Value of "Skimmer" Device Denied

Claims made recently by Tacoma City Light concerning the development of facilities to insure safe passage of fish over proposed power dams in the Cowlitz River, have brought denials from the University of Washington School of Fisheries and Washington State Fisheries Dept., as well as the Fish & Wildlife Service.

Advertisements in Washington papers publicized a "skimmer" device which is supposed to protect young fish on their seaward migration, but the director of the University of Washington Fisheries Department states that no "skimmer" device to date has proved successful.

Negotiating to Purchase Alaska Plant

Pacific American Fisheries of Bellingham has announced that it is working on arrangements to purchase a salmon cannery and herring reduction plant at Port Ashton near Seward, Alaska, from the Port Ashton Packing Corp. of Seattle.

Japanese Canned Salmon Rejected

Ten thousand cases of Japanese canned salmon were shipped back to Japan last month, part of a shipment of 15,000 cases brought to the West Coast earlier. The salmon had evidently been burned in the can because of improper canning methods, and were rejected by the Pure Food and Drug Administration.

Salmon Fishermen Protest Building of Dams

British Columbia fishermen are closing ranks behind a campaign to prohibit construction of power dams on salmon rivers, unless the fish are adequately safeguarded. The river that the fishing interests are most anxious to protect is the Fraser, which is the richest in salmon and at the same time holds great hydro possibilities for power-short British Columbia.

John M. Buchanan, president of B. C. Packers Ltd., says that a dam of the size proposed would virtually kill off more than 60 percent of the sockeye runs.

Imports of Japanese Seed Oysters

Japanese seed oyster shipments to the State of Washington during 1956 were inspected in Japan by a biologist of the Washington Department of Fisheries. The total Washington import of 74,059 cases of oyster seed was processed between February 2 and April 7. The 1956 Washington seed oyster imports were exceeded only by 1952.

Direct shipments to the State of California from the 1955 Japanese seed crop totaled 26,575 cases, including seed processed and shipped during the Fall of 1955. The record import of 100,634 cases to the Pacific Coast reflected the increased plantings in the State of California, the reduced seed quantity available in 1955, and poor natural reproduction in Washington waters.

Seattle Trawl Landings Show Seasonal Drop

Production in the Seattle otter trawl fishery during the month of December, 1956 amounted to about $\frac{3}{4}$ of a million pounds, which was the same as in the corresponding month of 1955, but was a drop of nearly a million pounds from November, 1956.

The leading variety was Pacific Ocean perch, with 180,900 pounds, which was 50,000 pounds more than in the same month of 1955. Next was true cod, with 137,200 pounds, for an increase of 15,000 pounds over 1955.

Connecticut Study Shows Bridgeport Is Best Oyster Setting Area

Research has been conducted by the Milford Laboratory of the Fish & Wildlife Service to determine the relative intensity of oyster setting in the New Haven, Milford and Bridgeport areas during the last 13 years. It was found that the Bridgeport area occupied first rank, or the best producing position, 10 years out of 13, and never held third or last place. The New Haven area was next, occupying first rank for three years. The Milford area, however, never reached the highest position. It ranked second only five times, and was in the third, or lowest position for the remaining eight years.

There was no evidence that the stations located at a definite depth, such as 10, 20 or 30 feet, consistently produced better sets of oysters than the stations at other depths. The research showed that there may be a great variability in the intensity of oyster set even within a given depth and district in the same year.

"John McLoon" Joins Fleet

The 66' dragger *John McLoon* finally has joined the Stonington fishing fleet, and is now being operated by a four-man crew, under command of Capt. Joseph Maderia. The vessel, formerly used as a dry lobster carrier, was purchased in November by Capt. Maderia, and since that time has been fitted out for dragging operations. A depth sounder recently was installed in *Mystic*.

Capt. Maderia will retain the boat's present name until next Summer, when she will be christened with a new name and blessed along with the other draggers in the fleet.

MEET CAPTAIN JOHN MURLEY OF FAIRHAVEN, MASS.

IN case you don't know Captain John, we thought you'd like to meet him. Captain John recently purchased two Caterpillar D375 Marine Engines to repower his scallopers, the FLEETWING and the CHARLES ASHLEY.

Choosing an engine is like choosing a wife . . . she's got to weather the storms . . . work under all conditions. So careful thought and planning must go into the selection. The wrong choice may bring nothing but heartaches and headaches.

If you are planning to build or repower your boat, call PERKINS-MILTON CO. INC. today. Our marine engine representative will assist you, not in the selection of a wife, but in the careful selection of the marine engine to fit your need.

You can then look forward to smooth sailing!



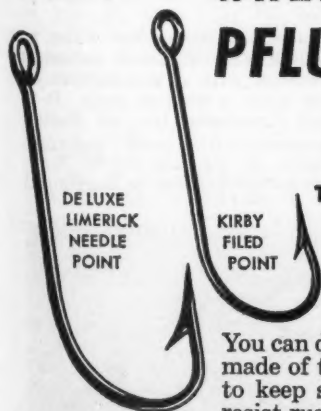
PERKINS-MILTON CO. INC.

Marine Division: 4 Water St., Fairhaven, Mass. Phone: New Bedford 6-0011

Main Office: 376 Dorchester Ave., Boston, Mass. Phone: ANDrew 8-4660

They just don't get away...

WHEN CAUGHT WITH PFLUEGER HOOKS



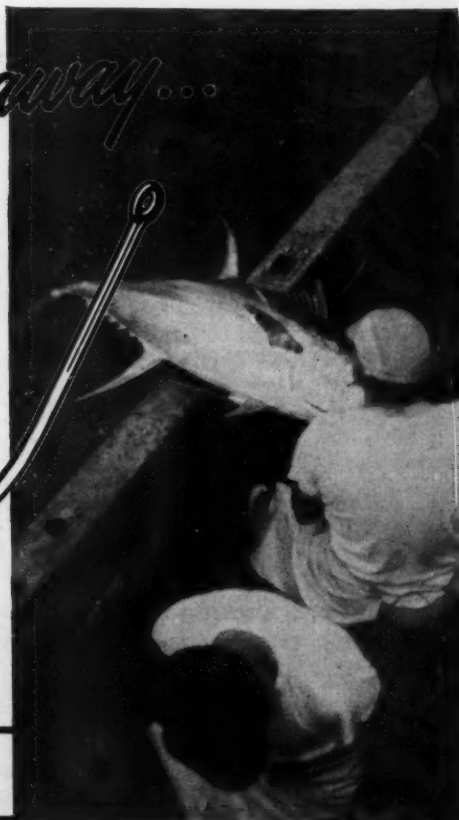
HUNDREDS OF
DIFFERENT
TYPES AND SIZES
REGULARLY
STOCKED



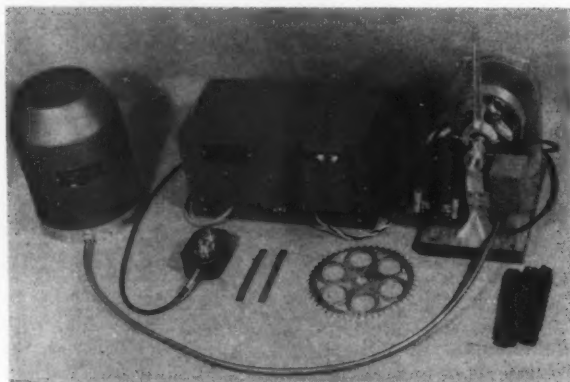
You can depend on Pflueger Hooks. They're made of the toughest steel, finely tempered to keep sharpness and shape. Finished to resist rust. Demand PFLUEGER HOOKS to hook and hold more fish.

THE ENTERPRISE MFG. CO. • AKRON, OHIO

PFLUEGER THE GREATEST NAME IN TACKLE
(Pronounced "FLEW-GER")



EQUIPMENT and SUPPLY NEWS



Wood Freeman Deluxe Model 42 automatic pilot, of the non-hunting type.

Non-Hunting Metal Marine Pilot

After several years of development and testing, Metal Marine Pilot, Inc., Tacoma 3, Wash. now has a Wood Freeman Pilot of the non-hunting type, designated as the Model 42.

The new Model is reported to provide extremely accurate steering under all sea conditions. In addition, it incorporates the complete remote control which allows dodging, maneuvering with course memory, circling or permanent course change from any number of remote stations.

The instrument moves the steering wheel only when the vessel is deflected from course by wind, waves or tide. The steering wheel remains stationary at all times when the vessel is on course.

There is a completely enclosed, moisture-resistant, compass unit which receives its follow-up signals from the motor unit by a flexible shaft drive which may be of any length up to 10 ft. This arrangement allows greater flexibility of location of the compass unit, either in the pilot house or placed below decks, without the necessity for chain and jack shaft connections.

A compact built-in limit switch, easily adjusted, for any number of wheel turns is incorporated on the motor unit. Amplifier circuits have been transistorized in 6, 12, 24 and 32-volt models and no "B" batteries, dynamotors or vibrators are required for any models. The only source of power required comes from the electrical system of the vessel.

The unit is furnished complete with steering wheel sprocket, compass compensating magnets, a 6 ft. flexible shaft and necessary chain for connecting the motor unit with the steering wheel sprocket.

Wiring is extremely simple as all connections are of the plug-in type and no skilled electrical knowledge is necessary to make these installations. The positive action expanding clutch, found on all previous Metal Marine Pilots, has been retained on the new unit.

Amercoat Zinc Coating Booklet

Inorganic Zinc Coating for steel hulls, decks, piping and tank interiors is featured in a new four-page illustrated brochure issued by Amercoat Corporation, 4809 Firestone Blvd., South Gate, Calif. The firm's product Dimetcoat is unusually resistant to salt water, spray, weathering, abrasion, solvents and petroleum products. One spray coat affords same physical and cathodic protection as galvanizing, and lasts up to 15 years in sea atmosphere.

Dale Marketing New Gill Net Float

A new gill net float, 1 3/4" in diameter and 5" long with center hole, said by the manufacturer to be the lowest priced float of this size and buoyancy available in the United States and Canada, is being announced by Dale Plastics Corporation.

Designated as No. 200, certified test results from The Detroit Testing Laboratories disclose that it withstood pressures in excess of 150 fathoms of water. Like other Dale floats, it is unconditionally guaranteed.

A free sample may be obtained by writing Dale Plastics Corp., Dept. 130, 5736 Twelfth St., Detroit 8, Michigan.

New Brownell Starter Rope

A brand new product, "Brownie" All-Nylon Motor Starter Rope, bonded and specially treated to prevent snapping back, has been announced by Brownell & Company, Inc., Moodus, Conn., manufacturers of nylon seine twine for the commercial fishing industry.

Made specially for instant starting of outboards, and other power equipment, "Brownie" starter ropes are wear resistant, waterproof, not affected by oil or grease and have a breaking point well over 500 lbs. The new rope is dyed a bright yellow.

Caterpillar Booklet on Piston Making

"Hard Work Wanted" is the name of an 8-page brochure recently published by Caterpillar Tractor Co., Peoria, Ill., to explain the quality manufacture of its pistons and cylinder liners.

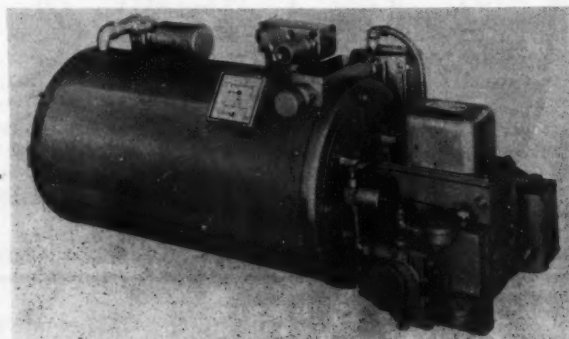
The two-color publication is illustrated with pictures of many of the machine and inspection operations performed on these vital engine parts during their manufacture. Included are explanations of the exacting design and manufacturing standards met by Cat pistons, pins, rings, and liners.

Way-Wolff Heater for Small Vessels

A new more compact arrangement of controls, and a redesigned air intake on the recently announced model of the miniature Way-Wolff Ship-Heater has resulted in a reduction in size of almost 7" in the overall height of the unit.

Designed to provide heat and continuous hot water in small vessels in the 40 to 60 ft. class, this new model is of the two-pass fire tube design with a wet bottom to insure safety even when set upon a wooden deck. It is manufactured by Way-Wolff Associates, Inc., 33 Fulton St., New York 38, N. Y.

Fully automatic firing Diesel oil, the size 917-6C Way-Wolff Ship-Heater mounts in either vertical or horizontal



New Way-Wolff Ship-Heater for boats in the 40 to 60 ft. class.

What you've long wished for!

AIR-COOLED SMALL DIESELS

Lister

DIESEL SAFETY • SIMPLICITY • ECONOMY

Surprisingly low-priced when compared to gasoline engines

PROPULSION POWER

For Medium Sized, Medium Speed Boats—
Sail, Power, Pleasure, Commercial.

AUXILIARY POWER

For Any Boats

Model LDM-1 1 cyl. *3½ HP @ 1800 RPM. Only 24½" high, 19" wide
Model LDM-2 2 cyl. **7 HP @ 1800 RPM. Only 28" high, 20¾" wide

HUSKY, HONEST HORSEPOWER THAT REALLY DELIVERS EVEN AT LOW RPM!

*5 HP Gross Rating

**10 HP Gross Rating



MODEL LDM1G
with direct
reversing gear

Immediate starting, complete air-cooling, in temperatures from sub-zero to 130°. Surprisingly low weight per horsepower. Unbelievably quick, easy installation. Parts and service in principal ports. A product of the manufacturers who provide auxiliary diesel power for over three quarters of New England's fishing fleet, and auxiliary and propulsion power (3½ to 600 HP) for countless

craft coast-to-coast and the world over. Built to Lloyd's requirements. Write for complete data, prices and name of nearest dealer. See these air-cooled and other Lister Diesels at the New York Motor Boat Show!

Distributorships available in some areas.

LISTER-BLACKSTONE, INC. • 42-32 21st Street, Long Island City, N. Y. • Tel.: STillwell 6-8202

position and may be suspended from the overhead as easily as mounted on the deck.

This Way-Wolf Ship-Heater is a completely integrated unit. The boiler is complete with combustion chamber in place; insulated steel jacket; oil burner assembly complete with oil pressure and vacuum gauge and magnetic oil valve; combustion safety control; adjustable temperature control; pressure-temperature gauge; hot water safety relief valve; oil filter; flue cleaning brush; burner adjusting hex keys and instructions.

For shipboard installations, it is furnished for operation on D.C. 24, 32, 115 or 230 volts. Power consumption is only 150 watts. Nominal output rating of this new miniature unit firing .65 of a gallon of oil per hour is 60,000 b.t.u. per hour.

Harper Has Corrosion-Resistant Fastenings

Users of corrosion-resistant fastenings will find valuable information and cost-saving ideas in the colorful new 24-page, semi-technical Flo-Form brochure now available from the H. M. Harper Co., Morton Grove, Illinois. The firm has been manufacturing corrosion-resistant fastenings for over 35 years.

The brochure illustrates and describes some of the thousands of special fastenings which are being produced in small quantity for individual jobs and in large quantities for original equipment manufacturers. Case histories of parts re-designed by Harper are completely covered, including engineering drawings.

Flo-Form is the copyrighted name applied to Harper's complete process of designing special parts, determining the alloy best suited to the particular job, and then manufacturing the part from molten metal to finished fastening. Flo-Form fastenings are products of the H. M. Harper Company's Technical Products Department, which specializes in stainless steel and non-ferrous corrosion-resistant fastenings.

OF COURSE, A NYLON NET IS BETTER AND THE BEST NYLON NETS

ARE
MADE
OF

NYLOCK®

THE ONLY BONDED

NYLON TWINE

EXCLUSIVE U. S. PATENTED BONDING PROCESS
GIVES EVERY NET THESE IMPORTANT ADVANTAGES:

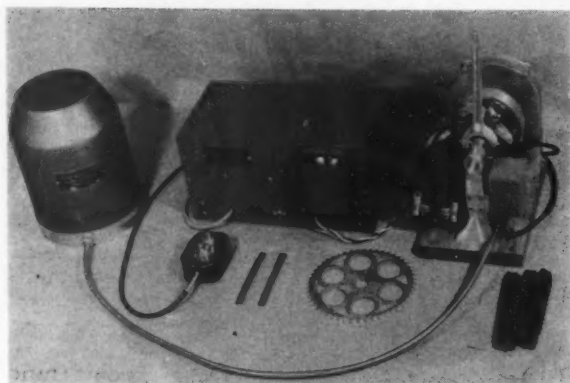


- Knot slippage practically eliminated
- Nets last much longer due to greater abrasive resistance
- Nets stay cleaner, whiter longer
- Nets have much greater resistance to marine organisms

HEMINWAY
& BARTLETT

Write for full information to
The Heminway & Bartlett Mfg. Co.
500 Fifth Ave., New York 36

You've Heard the Rumors— Here are the Facts



MODEL 42 "NON-HUNTING"
WOOD FREEMAN

Metal MARINE PILOT

- **Non-Hunting —**
Steering wheel moves only
when vessel off course
- **Transistorized —**
No "B" batteries, vibrators
or dynamotors
- **Limit switches built-in**
- **Remote Control**
- **Enclosed Compass Unit**
- **Dynamic Braking**
- **Simple Installation**
- **Steers any vessel steerable by hand**
- **Unexcelled Accuracy**

\$595.00 F.O.B. Tacoma

METAL MARINE PILOT, INC.
TACOMA 66, WASHINGTON

BOAT CATCHES

For Month of December

Hailing fares. Figure after name indicates number of trips.

GLOUCESTER (Mass.)

Agatha (1)	4,000	Margaret Marie (4)	18,700
Alden (5)	44,500	Maria Stella (1)	90,000
Athaea (3)	4,800	Mary (5)	6,700
American Eagle (5)	45,500	Mary Ann (2)	7,000
Anna Guarino (1)	5,000	Morning Star (8)	70,800
Ann & Marie (2)	3,500	Mother Ann (1)	240,000
Annie (3)	8,300		
Anthony & Josephine (7)	14,400	Nancy & Maria (5)	8,300
Cape Cod (8)	24,200	Natale III (8)	74,500
Carlansul (10)	23,100	Njorth (1)	3,500
Carlo & Vince (2)	34,500	No More (5)	3,400
Catherine B. (1)	3,000	Ocean Life (1)	273,000
Charlotte M. (1)	2,500	Olympia (3)	31,000
Cigar Joe (1)	30,000	Our Lady of Fatima (1)	166,000
Curlow (2)	200,000		
Cushmere (1)	242,000	Peggy Belle (1)	500
		Phyllis A. (1)	900
Dawn (4)	11,000	Pioneer (4)	7,000
Dolphin (1)	10,000	Priscilla (1)	1,000
		Prosperity (1)	500
Eddie & Lulu M. (10)	12,600	Regina Maria (1)	2,800
Eleanor May (1)	1,500	Rose & Lucy (4)	38,000
Emily H. Brown (2)	465,000	Rosemarie (2)	21,000
Estrela (1)	240,000	Rose Mary (1)	11,000
Etta K. (1)	6,000	Rosie & Gracie (5)	65,900
Eva II (1)	2,000		
Falcon (10)	29,100	St. Anna Maria (5)	43,500
Florence & Lee (1)	95,000	St. Anthony (1)	16,000
Flow (1)	240,000	St. Cabrini (6)	60,000
Frances R. (4)	31,800	St. John (2)	1,500
Frankie & Jeanne (6)	6,300	St. Joseph (1)	4,000
		St. Mary (5)	92,000
Gaetano S. (2)	100,000	St. Peter (7)	58,000
Gertrude E. (6)	3,900	St. Peter III (1)	4,000
Giacoma (10)	13,200	St. Providence (8)	15,000
		St. Rosalie (1)	8,000
Helen B. (7)	35,500	St. Stephen (6)	22,900
Helen M. (2)	6,900	St. Terese (5)	36,500
Holy Name (3)	32,000	St. Victoria (1)	12,000
Ida & Joseph (7)	73,000	Salvatore & Grace (3)	40,000
Immaculate Conception (5)	52,500	Santa Lucia (5)	17,000
Irma Virginia (9)	15,100	Sebastiana C. (7)	61,500
		Serafina N. (1)	3,000
Jackson & Arthur (3)	8,500	Serafina II (7)	48,700
Jennie & Lucia (1)	14,000	Sunlight (2)	76,000
Joseph & Lucia (1)	80,000		
Josie II (8)	16,200	Theresa M. Boudreau (1)	210,000
Judith Lee Rose (1)	320,000	Tipsy Parson (9)	9,700
Kingfisher (1)	183,000	Victoria (4)	3,000
Kurta (7)	5,400	Villanova (2)	255,000
		Vincina N. (1)	39,000
Lady of the Rosary (7)	55,100	Virginia (1)	1,300
Linda B. (6)	9,600	Virginia Ann (8)	15,200
Little Flower (7)	38,600		
Little Joe (2)	2,500	White Owl (6)	9,500

Scallop Landings (Lbs.)

Brother Joe (1)	3,000	Rita B. (1)	7,000
Cap'n Bill (1)	1,000	Stephen R. (2)	12,000
Francis L. MacPherson (2)	17,500	Sylvester F. Whalen (1)	11,000

ROCKLAND (Me.)

Araho (2)	77,000	John J. Nagle (2)	113,000
Elin B. (2)	27,500	Rhode Island (2)	13,000
Flo (1)	8,000		

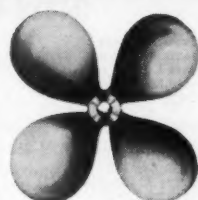
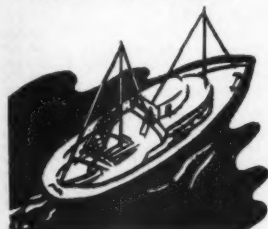
Scallop Landings (Lbs.)

Jeanne D'Arc (2)	18,000	Pocahontas (2)	19,000
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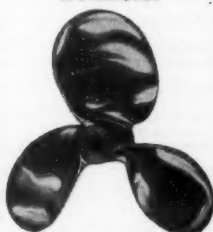
STONINGTON (Conn.)

America (6)	14,800	Lisboa (1)	1,800
Averio (8)	5,600	Little Chief (10)	13,100
Bette Ann (9)	10,700	Luann (2)	3,000
Carl J. (6)	11,300	Marise (9)	8,000
Carol & Dennis (2)	6,100	New England (1)	1,000
Carolyn & Gary (8)	13,600	Old Mystic (1)	7,600
Connie M. (8)	18,900	Our Gang (1)	1,800
Fairweather (10)	34,000	Pvt. Frank Kessler (1)	200
Five Sisters (1)	300	Rita (1)	300
Irene & Walter (9)	16,200	Theresa (3)	7,000
Jane Dore (9)	12,800	William B. (5)	9,600
Lt Thos. Minor (10)	16,100		

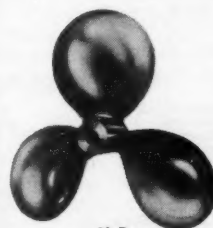
MICHIGAN has the WHEEL that's BEST FOR YOU!



WORKHORSE



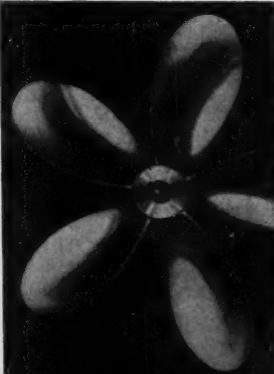
AQUA-MASTER



M-P

MICHIGAN WHEEL CO. GRAND RAPIDS 3, MICH.

Whatever the conditions, the type of boat or its use, if it requires a wheel of 60" diameter or less, MICHIGAN can fit it with a wheel that will give your craft the finest performance of which it is capable. See your MICHIGAN dealer or write for our propeller analysis form and let our propulsion engineers give you a scientific propeller recommendation. It has paid tremendous dividends for thousands of boat owners.



THE MICHIGAN STAR

The wheel that absolutely eliminates stern vibration, provides better cruising speeds and better economy of operation. Available in "MICHALLOY XX" the metal that is stronger and cheaper than stainless steel and extremely corrosion resistant. It eliminates as much as 80% of the haul-outs occurring in hazardous waters.

BOSTON (Mass.)

Acme (1)	4,000	Mary & Joan (2)	117,800
Agatha (3)	88,200	Mary Rose (2)	89,800
Agatha & Patricia (3)	49,400	M. C. Ballard (2)	106,700
Angie & Florence (2)	36,400	Michigan (3)	247,300
Annie & Lucy (1)	1,800	Mother Frances (2)	77,500
Arlington (3)	314,200	Nautilus (2)	121,500
Atlantic (3)	182,600	New Star (2)	109,900
Baby Rose (3)	101,300	Notre Dame (3)	71,600
Bay (1)	97,800	Ocean Clipper (2)	76,100
Bonaventure (2)	64,000	Ocean Wave (1)	24,600
Bonnie (3)	238,600	Ohio (2)	145,800
Bonnie Billow (2)	129,000	Olympia La Rosa (2)	68,000
Bonnie Breeze (2)	174,000	Pam Ann (2)	121,900
Brighton (2)	140,600	Phantom (2)	178,500
Buzz & Billy (2)	46,100	Pilgrim (2)	97,800
Cambridge (2)	183,500	Plymouth (3)	171,000
Caracara (2)	60,300	Princess (1)	13,500
Carmela Maria (2)	7,600	Puritan (2)	74,400
Catherine B. (1)	13,400	Racer (2)	207,100
Charlotte M. (1)	27,700	Raymonde (3)	167,200
Columbia (2)	99,700	Red Jacket (3)	333,500
Comet (2)	169,000	Reginia Maria (1)	119,000
Dolphin (2)	82,600	Rosa B. (2)	155,000
Doris F. Amero (3)	69,900	Rosie (1)	17,900
Eagle (3)	185,200	Rush (1)	113,800
Elizabeth B. (3)	159,300	St. Angelo (4)	103,500
Emily H. Brown (1)	50,200	St. Anthony (1)	93,000
Flying Cloud (2)	208,000	St. Joseph (1)	14,400
Four (2)	109,300	St. Marco (3)	68,600
Gaetano S. (1)	44,100	St. Nicholas (2)	129,700
Geraldine & Phyllis (3)	130,400	St. Peter III (2)	64,600
Hazel B. (3)	117,200	St. Rosalie (1)	26,300
Holy Family (2)	103,200	St. Victoria (2)	67,400
Jane B. (3)	181,800	Santa Maria (2)	40,200
J. B. Junior (3)	206,900	Star of the Sea (2)	47,700
Jennie & Lucia (1)	27,300	Swallow (2)	149,700
Joseph & Lucia (2)	79,900	Terra Nova (2)	163,500
Josephine F. (1)	1,900	Texas (2)	166,800
Josephine P. II. (2)	37,200	Thomas D. (3)	98,900
Killarney (1)	27,500	Thomas Whalen (2)	161,700
Leonard & Nancy (2)	26,700	Villanova (3)	86,600
Luckmees (2)	145,000	Weymouth (2)	163,400
Magellan (2)	56,300	Wild Duck (3)	162,700
Manuel F. Roderick (2)	95,800	William J. O'Brien (3)	263,200
		Winchester (3)	300,000
		Wisconsin (2)	223,200

PORTLAND (Me.)

Agnes & Elizabeth (2)	20,600	Gulf-Stream (2)	288,000
Alice M. Doughty II (5)	87,100	Kennebec (3)	96,000
Andarte (2)	90,000	Little Growler (1)	10,000
Catherine B. (1)	15,000	Medan (1)	280,000
Cigar Joe (2)	20,000	Quincy (3)	88,000
Courier (3)	106,200	Rhode Island (1)	13,000
Dorchester (2)	81,000	St. George (1)	180,000
Dorothy & Ethel II (2)	22,000	Theresa R. (2)	106,000
Elin B. (1)	5,000	Vandal (4)	128,000
Elinor & Jean (3)	16,800	Wawenock (1)	200,000
Ethelina (1)	6,000		

Scallop Landings (Lbs.)

Empress (1)	9,400
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WOODS HOLE (Mass.)

Arnold (5)	33,200	Margie L. (2)	6,500
Bernice (4)	17,100	Morning Star (1)	1,800
David & James (3)	8,800	Papoose (3)	24,600
Driftwood (1)	4,000	Priscilla V. (1)	14,600
Gertrude D. (3)	33,300	Roann (1)	8,200
Kelbarsam (3)	13,100	R. W. Griffin, Jr. (1)	15,200
Lynn (3)	19,400	Stella Maria (4)	21,700
Madeline (3)	10,400	Three Bells (3)	13,400

Scallop Landings (Lbs.)

Brant (1)	9,100	Carol & Estelle (1)	2,900
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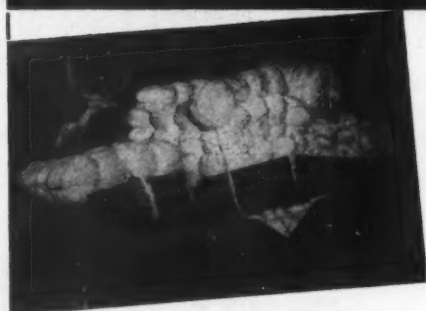
NEW YORK

Andrea G. (2)	30,700	Joseph S. Mattos (3)	81,600
Carol-Jack (2)	43,600	Lady of Good Voyage (2)	68,500
Clipper (2)	77,700	Richard Lance (2)	10,500
Evelina M. Goulart (2)	56,300	Star of the Sea (3)	65,700
Golden Eagle (2)	81,000	Tina B. (2)	61,500

Scallop Landings (Lbs.)

Barbara & Gail (2)	11,700	Florence B. (2)	17,600
Beatrice & Ida (1)	7,000	Maridor (2)	11,000
Clipper (1)	6,000	Miriam A. (2)	12,600
David A. (3)	20,600	Muskegon (1)	3,800
Enterprise (1)	7,200	Norseman (1)	6,100
Felicia (1)	8,200	S-No. 31 (2)	10,500

FROM STARR TO YOU



The finest netting you can buy —
Nylon netting made only from
100% highest tenacity DuPont Nylon...
Processed into perfection by STARR,
the country's first volume producers
of nylon netting.

STARR NET — STAR PERFORMANCE

A. M. STARR NET CO.
EAST HAMPTON, CONNECTICUT

NEW BEDFORD (Mass.)

Adventurer (4)	57,300	Lorine III (1)	9,000
Anastasia E. (2)	32,500	Major J. Casey (3)	24,000
Annie Louise (4)	27,500	Marie & Katherine (2)	29,500
Annie M. Jackson (5)	74,000	Mary E. D'Eon (2)	40,500
Austin W. (1)	13,300	Mary Tapper (2)	49,000
Barbara M. (2)	36,300	Midway (3)	96,600
Cap'n Bill II (2)	68,200	Molly & Jane (4)	45,300
Carl Henry (3)	75,400	Olive M. Williams (2)	29,200
Charles E. Beckman (1)	12,000	Pauline H. (2)	142,500
Christina J. (4)	86,600	Phyllis J. (2)	15,100
Christine & Dan (2)	15,000	Richard Lance (1)	11,000
Connie F. (2)	62,500	Roann (1)	23,600
Dauntless (4)	48,000	Roberta Ann (3)	44,000
Elva & Estelle (3)	27,000	Rosemarie V. (3)	42,300
Eugene & Rose (3)	41,900	Rush (1)	6,000
Falcon (4)	74,400	R. W. Griffin, Jr. (2)	57,500
Gannet (2)	53,000	St. Ann (3)	58,500
Gladys & Mary (3)	54,000	Shannon (3)	50,000
Growler (2)	37,700	Stanley B. Butler (3)	132,000
Harmony (4)	56,000	Sunbeam (2)	41,300
Hope II (4)	57,400	Susie O. Carver (3)	25,700
Invader (3)	72,700	Theresa & Jean (2)	92,200
Ivanhoe (1)	11,800	Two Brothers (2)	14,800
Jacintha (3)	102,000	Venture I (3)	55,100
Janet & Jean (2)	23,500	Victor Johnson (2)	29,000
Julia Da Cruz (2)	32,400	Viking (2)	80,000
Katie D. (3)	157,500	Whaler (2)	88,000

Scallop Landings (Lbs.)

Adele K. (2)	11,500	Lauren Fay (2)	22,000
Aloha (2)	20,500	Linus S. Eldridge (2)	20,000
Alpar (1)	8,500	Louis A. Thebaud (2)	17,200
Amelia (1)	6,600	Louise (2)	18,900
Babe Sears (2)	15,500	Lubenray (2)	11,700
Baltic (2)	22,000	Malene & Marie (2)	16,500
B. & E. (2)	16,000	Marmax (1)	11,000
B. Estelle Burke (2)	18,000	Mary Anne (2)	16,000
Bobby & Harvey (2)	12,000	Mary J. Hayes (1)	10,000
Bright Star (2)	19,000	Mary J. Landry (1)	6,000
Camden (2)	17,700	Michael F. Densmore (1)	11,000
Carol & Estelle (2)	19,000	Moonlight (2)	17,500
Catherine & Mary (1)	8,000	Nancy Jane (2)	18,500
Charles S. Ashley (3)	27,500	Nellie Pet (2)	22,000
Dartmouth (2)	22,000	New Bedford (2)	20,000
Debbie Jo-Ann (2)	19,400	Newfoundland (2)	8,500
Dorothy & Mary (2)	19,000	Noreen (2)	20,000
Edgartown (2)	22,000	Pearl Harbor (2)	18,500
Eleanor & Elsie (2)	15,700	Pelican (2)	20,500
Elizabeth N. (2)	18,500	Porpoise (2)	18,800
Empress (1)	3,500	Rosalie F. (2)	7,000
Eugene H. (2)	17,000	Rush (1)	8,500
Eunice-Lillian (2)	10,500	Ruth Moses (2)	14,500
Flamingo (2)	21,500	Sea Hawk (1)	2,000
Fleetwing (2)	18,000	Sea Ranger (2)	18,000
Friendship (1)	9,500	Sippican (2)	22,000
Jenny & Jimmy (1)	4,000	Smilyn (2)	18,000
Jerry & Jimmy (1)	3,500	Ursula M. Norton (2)	22,000
John G. Murley (2)	19,000	Vivian Fay (2)	18,700
Josephine & Mary (2)	10,000	Wamsutta (2)	16,500
Kingfisher (2)	20,500	Whaling City (2)	18,300
Laura A. (2)	23,500		

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Lane (1)	20,000		

Georgia Landings Are Mostly Shrimp

The catches of commercial fishery products landed at Georgia ports during October amounted to 2.5 million pounds. Shrimp accounted for 76 percent of the total.

During the month an estimated 400 shrimp trawlers landed in the State and produced a daily average of about 230 pounds of shrimp per boat, receiving an average price of 36 cents per pound. The catch from the Central and Southern sections consisted mostly of white shrimp, while brown shrimp predominated in Northern section.

Total landings during the first ten months of 1956 amounted to 14.2 million pounds. Hard crabs, with 7 million pounds, and shrimp, with 6.6 million pounds, accounted for 95 percent of the total ten-month production.

Alabama Boats Making Good Snapper Catches

Snapper production was hitting a good stride in the early weeks of December, according to Star Fish & Oyster Co. of Mobile. They reported that the *Arthur G.* came in with catches of 2,000 lbs. grouper, 7,000 lbs. snapper; *Lisa G.*, 22,000 lbs. snapper, 2,000 lbs. grouper; *Eulalie G.*, 26,000 lbs. snapper, 2,000 lbs. grouper.

The firm's vessel *Peggy G.* developed trouble while fishing off the Campeche Banks in Mexico, and had to be assisted by the cutter *Sebago* out of Mobile. Following repairs, the *Peggy G.* brought in a catch of 2,000 lbs. of grouper. The Star Fish & Oyster Co. finds the demand for snapper fairly good, and looks for an increase in demand.

The oyster demand has heightened, and oysters being brought in are fatter and richer in flavor. Shrimp production has fallen off, with shrimp few and small.

Night Shrimping Ends

Night shrimping in the territorial waters of Alabama was closed at 6 p.m. December 7. Waters closed include Mobile Bay, Perdido Bay, Mississippi Sound, Gulf of Mexico and all other waters of Alabama.

The Klondike oyster reef was to be opened December 10. The reef covers 50 acres.

Crack Down on Unauthorized Radiotelephone Use

The Federal Communications Commission, after a year of investigating, has launched a crackdown on unauthorized use of radiotelephones on private and commercial fishing boats.

G. E. Franklin of the Mobile FCC office reports that he has been monitoring radiotelephone frequencies for over a year and has made over nine miles of tape recordings that will probably be used as evidence.

Franklin said the investigation was launched when numerous reports were received of the International distress frequency being jammed, and persons wishing to call for aid were unable to use their radio.

Weather Causes Decreased Fish Production

The commercial production of fish and shellfish from the Alabama coastal area during September totaled 1.0 million pounds—a decline of 26 percent compared with the same month a year ago. The decrease was partly due to inclement weather during the period.

New Jersey Commercial Watermen Form New Organization

A new organization, tentatively named the Cape May County Watermen's Assoc., was formed last month as a result of a recent controversy regarding the opening of the lower end of Delaware Bay to commercial oyster and clam dredging.

Albert Eisele was elected temporary president of the new organization. He and others of the group believe that the bay area in question could be productively yet conservatively worked with light dredges—80 lbs.—but that the use of heavy dredges—150 lbs.—would soon deplete the shellfish supply.


Seafood Landings Decline

Landings of fish and shellfish by commercial fishermen at New Jersey ports during September amounted to 43.6 million pounds, valued at 1.1 million dollars. A decline of 38.6 million pounds of menhaden was the main cause of the lower total catch this year. Inclement weather was largely responsible for the lowered volume of menhaden landings.

September landings of some major food species, however, increased over those of last September. Soft clam meats were up 273,000 pounds; fluke, 225,000 pounds; and scup, 218,000 pounds.



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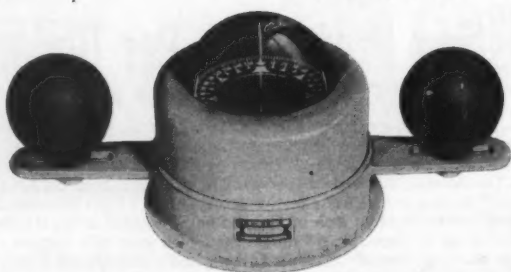


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Florida Waters Closed To Mullet Fishing

Florida's 40-day closed season on mullet began December 10. Enforcement was greatly stepped up this year, with several new agents added and a few temporary men hired just for the closed season. An additional airplane has been acquired, and radio equipment will provide air-to-boat communications.

Dealers wishing to store mullet may do so by making a declaration to the Board of Conservation. These mullet may be transported only out of the State during the closed season by applying to the Board for a permit.

Shrimper Destroyed by Fire

A \$7,500 fire destroyed a 30-ft. shrimp boat at the city docks of New Smyrna Beach last month. The *Clyde, Jr.*, owned by J. W. McCafferty, was just leaving the docks when an explosion occurred. It was believed to have been caused by a short circuit.

McCafferty was burned slightly around the face and eyes, and the vessel was completely destroyed and sank in about 45 minutes.

Cold Sends Mullet to Sea

Florida's cold wave last month sent masses of mullet from Lake Okeechobee to the Atlantic Ocean. The fish, fat with roe, were flooding through the St. Lucie lock near Stuart in their annual migration.

Locks are operated just as though ships were passing through, and officials said if the run of last month increased, 24-hour operations would be needed.

The mullet ranged up to six pounds, with an average weight of three pounds.

Studying Red Shrimp Concentrations

The exploratory vessel *Combat* recently carried out two short trips in the Cape Canaveral-St. Augustine area, to obtain further information on the apparent dispersal of royal red shrimp concentrations following the passing of hurricane Flossy in September.

Catches in the St. Augustine area contained only small numbers of shrimp. Seven drags in 180-200 fathoms yielded highest catches of 15 pounds of shrimp per hour using 40-ft. trawls.

On October 25, good fishing concentrations were located in 150-160 fathoms ENE of Daytona Beach. Round-the-clock fishing yielded over 800 pounds of headed shrimp.

Between Cape Hatteras and Cape Fear 15 drags were made. Two of these resulted in the loss of trawl and doors, and several other drags severely damaged the trawls.

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ILLUSTRATED LITERATURE ON REQUEST.

Making Boats More Seaworthy

(Continued from page 11)

sity of open hatches at sea would contribute greatly toward increased safety. The problem of devising a subdivision of the hull of a trawler which would afford some protection in the event of flooding or underwater damage, and yet would not interfere with essential internal arrangements is admittedly difficult, and it may be that no real solution can be arrived at until the trawler evolves into something quite different from the accepted type. But the possibilities should be in every designer's thoughts, for the vast majority of these small ships are indeed "no compartment" vessels which lose stability and buoyancy very rapidly when damaged or flooded beyond the capacity of the pumps.

All in all, the seaworthiness of trawlers presents some unusual problems which tax the ingenuity of the naval architect and the skill and seamanship of the master alike. In general, it is impossible to resort to much greater size, since first cost and operating expenses rise rapidly with size and out of proportion to increased earning power. We must look, rather, to the mounting knowledge of the factors which make for seaworthiness.

Improving Small Boat Seaworthiness

The innumerable small craft which venture many miles from shore and fish in what for them is very rough water indeed also present a problem. What can be done to improve the seaworthiness of these boats?

Their design and loading must provide for ample stability and buoyancy. Possibly the most vital requirement for safety is that water be prevented from getting below, and that accumulations of water on deck or in the cockpit be cleared as quickly as possible. For this, ample and reliable pumps are required for the first emergency; low bulwarks or shallow cockpits with generous freeing ports or scuppers for the second. But the small craft depends for safety much more on the skill of the operator than does the well found vessel, and it is amazing what severe conditions a well designed boat can weather if she is truly watertight and skillfully handled.

Standards for Design and Construction

Considerations of safety and efficiency lead to the question of design and construction standards and regulations. For new vessels, standards of seaworthiness can be developed which, if adopted, will greatly reduce casualties at sea and improve performance. The problem in design and construction is no more obscure with the fishing vessels than with the merchant ship. But to evolve such standards requires recognition of their importance and acceptance of skilled professional guidance. The naval architect and marine engineer must be given the same freedom and responsibility they receive in all other branches of shipbuilding. And there is no possible question that reasonable standards and to some extent, sensible standardization, would be of benefit to all.

These suggestions must not be interpreted to mean that fishing vessels should necessarily be brought under the full jurisdiction of governmental regulatory bodies such as the United States Coast Guard. On the contrary, such an eventuality would place an undue burden on the government agency and could result in regulations which would be unsuited to the fishing industry.

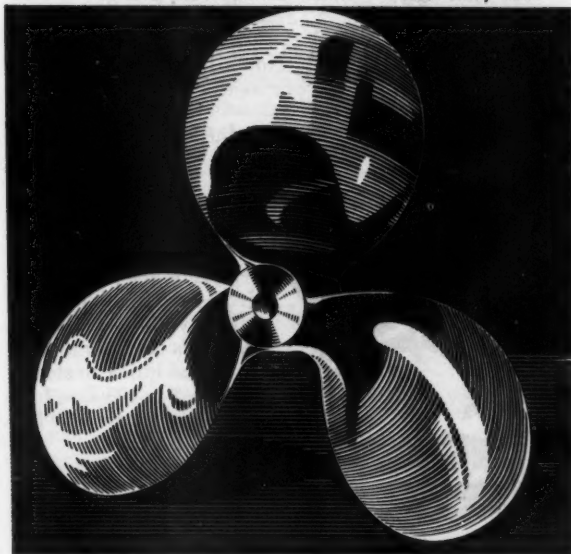
But there is one field in which government regulation is more than appropriate, and this is in the establishment of license requirements and standards for the deck officers and engineers on fishing vessels, for their abilities have direct bearing on the safety and performance of these vessels. The law which requires licensed officers above and below deck on almost non-existent steam fishing vessels seems to tolerate at great cost both unlicensed and often unqualified personnel on expensive and mechanically complex motor vessels. Again it is certain that the adoption of suitable license requirements would have a beneficial effect on the performance of fishing vessels, and on the cost of their insurance about which many complaints are heard.

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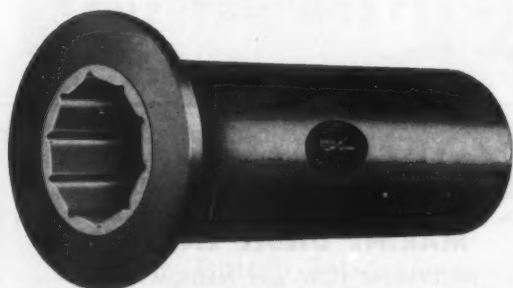


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Maryland Oystermen Want Clamming Ban Enforced

A group of 16 oyster tongers and packers in Queen Anne's County last month asked the Circuit Court to order the Tidewater Fisheries Commission to enforce the law prohibiting clam dredges from operating over natural bars. The oystermen accuse the clam diggers of "unlawfully working in prohibited areas on 25 separate oyster bars". They also claim that clam dredges and rakes ruin the bottom for oysters. They feel sure that if clam dredging is stopped now, the bars could be revived and saved by replanting.

Crab Production

Maryland seafood packers processed 34,208,140 pounds of crab meat in 1956, according to figures released last month by the Tidewater Fisheries Commission. Included were 20,638,810 pounds of hard crabs taken from Maryland waters and 13,569,330 pounds imported from other States.

In addition, there were 609,640 dozen soft crabs produced in Maryland and 237,780 dozen imported.

Oysters Scarce but Prices High

Prices of oysters are higher than ever, and dredgers and tongers are receiving \$2.50 to \$4 a bushel. Oysters have been selling for about \$1 a pint, or 10 to 15 cents higher than last year. A shortage in the supply of oysters is responsible for the price increase.

There are 99 oyster packing houses operating in the State now compared to 122 last season. Hardest hit by the poor season are the packers and their shuckers. Oyster shuckers are paid by the quantity shucked during a day.

The holidays and the blustery weather the last week of December and in the first week of January caused a temporary lull in the seafood industry in Maryland. Most watermen worked only from three to four days out of the two weeks, and shuckers in the various oyster houses worked less than half of their usual time.

Crab picking slowed up considerably due to the small amount of hard crabs brought in to the processing houses from out-of-State waters. The reason given for the scarcity of hard crabs is that the waters of the lower Chesapeake Bay in Virginia, where crab dredging is legal, have been so warm that the crabs move about on the bottom. In cold weather the crabs bury themselves and the dredges are able to catch them.

Would Revive Oystering in Sinepuxent Bay

Conservationists have expressed interest in a recent project under discussion by the Snow Hill Rotary Club, looking toward the restoration of Sinepuxent Bay to the status it once had as a prolific oyster and fishing ground.

The project would include the construction of a lock or set of gates along with a bridge which would span the bay waters between South Point on the mainland and North Beach on Assateague Island. This, it is believed, would have the effect of controlling the inflow of sea water, in which screwborers thrive. These snails are deadly enemies of oysters and other species of desirable shellfish.

It is theorized that if the high salinity of the bay waters could in some manner be cut down, then the screwborer would be unable to live in that area, with the result that the oyster beds could be re-established on a major scale, and fish would once more flourish in the Bay.

As an initial step in the project, it has been proposed that the State Department of Geology and Mines be asked to make a survey to determine the feasibility of the project, and also to give some idea on what the cost of the locks might be.

North Carolina Menhaden Boats Make Heavy Catches

Beaufort and Morehead City last month claimed the largest catches of menhaden in a single week ever recorded in the history of commercial fishing. Thirty-nine boats operating from three processing plants at Beaufort caught more than 55,000,000 fish in a six-day period. From Morehead City came the report that 18 boats from two plants caught an additional 25,000,000 fish, to bring the total week's catch in the area to well over 80,000,000.

Plants involved in the tremendous catch were the Fish Meal Co., with 24 boats which caught 35,000,000; Beaufort Fisheries, with 10 boats and 17,000,000. The catch from the port's newest and smallest plant, Standard Products Co. of North Carolina, was estimated to be from three to five million.

R. W. Taylor & Co. of Morehead City, operating seven boats, caught 13 million, while Wallace Fisheries, also of Morehead City, with 11 boats, claimed more than 12 million.

A single shad boat, the *John O.*, owned and operated by John Lawery for Beaufort Fisheries, caught 3,200,000 fish in four days.

Scallop Season Opens

The scallop season opened on December 3, with scallopers expecting to make \$30 a day. Individuals may catch as many as 25 bushels a day, and the price was running from \$4 to \$4.25 a gallon. The license for taking scallops is \$2.50 plus 75 cents per foot on the boat.

Good Fishing at Oregon Inlet

Fishing in the Oregon Inlet area was good most of last month, but as usual, during a continued spell of warm weather and big catches, prices dropped. Several crews fishing in Pamlico Sound made a number of good catches.

Ocean seines were being fished, and Roy Gray of Hatteras is reported to have caught 5,500 lbs. of striped bass in one haul. Some of the rockfish taken in these catches ranged up to 90 lbs.

Commercial fishermen on the mainland were busy late last month getting ready to set Spring pound nets.

"Fenwick Island" Uses New Power Blocks

Being used on the menhaden boat *Fenwick Island* this season are the newly-developed power blocks for hauling purse seines. The vessel, owned by the J. Howard Smith firm and fishing for the Fish Meal Co., Beaufort, is captained by Paul Hudgins.

The new power blocks, carried in each of the purse boats, haul the net, doing work formerly done by crewmen. The power blocks are said to enable the boat to fish in rough weather.

Try Mid-Water Trawling for Menhaden

During November the research vessel *George M. Bowers* attempted mid-water trawling for menhaden in the Cape Hatteras area, but produced no fish. All surface schools of fish dispersed when trawling approaches were made, and no evidence of their subsurface scattering was detected on the depth sounder.

New Marine Radio Station

A new marine radio station has gone into service at Point Harbor near Elizabeth City, to offer improved ship-to-shore communication facilities along the coastal waterways. The better radiotelephone service off the Carolina and Virginia coasts will be of particular benefit to boats operating between Norfolk and Wilmington.

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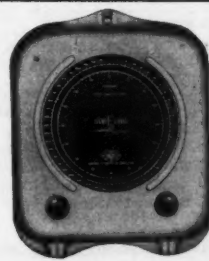
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Nap J. Hudon, 170 Tenean St., Dorchester, Mass.
Nordberg Gasoline Marine Engine Div., Universal Motor Co., Oshkosh, Wisc.
Red Wing Marine Corp., Red Wing, Minn.

ENGINES—Outboard

Evinrude Motors, 4670 N. 27 St., Milwaukee 16, Wisc.
Johnson Motors, 6300 Pershing Rd., Waukegan, Ill.
Kiekhaefer Corp., Fond du Lac, Wis.

ENGINE CYLINDERS—Diesel

Porous Chrome Plated: Van Der Horst Corporation of America, Olean 3, N. Y.

FISHING GEAR

The Harris Co., Portland, Me.
Westerbeke Fishing Gear Co., Inc., 279 Northern Ave., Boston, Mass.

FLARE SIGNALS

Kilgore Inc., International Flare Signal Div., Westerville, Ohio

FLEXIBLE HOSE LINES

Aeroquip Corp., 300 South East Ave., Jackson, Mich.

FLOATS

Dale Plastics Corp., 5736 12th St., Detroit 8, Mich.
Marconi Buoy Co., Kittery, Me.
J. H. Shepherd Son & Co., Tlyria, Ohio.
B. F. Goodrich Sponge Products Division, Shelton, Conn.
The Linen Thread Co., Inc., 418 Grand St., Paterson 1, N. J.

GENERATING SETS

Allis-Chalmers, Buda Division, 1135 S. 70th St., Milwaukee 1, Wisc.
Detroit Diesel Engine Div., General Motors Corp., Series 51, 71 and 110 Marine Diesels, 13400 W. Outer Drive, Detroit 28, Mich.

GENERATORS

Safety Industries, Inc., Box 904, New Haven 4, Conn.

HOOKS

O. Mustad & Son, Oslo, Norway.
"Pfueger": Enterprise Mfg. Co., 110 Union St., Akron, Ohio.

INSULATION

"Styrofoam" (Expanded Dow Polystyrene): The Dow Chemical Co., Midland, Mich.

LORAN

Edo Corporation, College Point, L. I., N. Y.
Radio Corp. of America, 75 Varick St., New York 13, N. Y.
Sperry Gyroscope Co., Division of the Sperry Corp., Great Neck, N. Y.

MOTOR GENERATORS

Safety Industries, Inc., P.O. Box 904, New Haven 4, Conn.

NETS

W. A. Augur, Inc., 35 Fulton St., New York.
The Carron Net Co., 1623 Seventeen St., Two Rivers, Wisc.
The Fish Net & Twine Co., Menominee, Mich.
Hope Fish Netting Mills, Inc., Hope, R. I.
The Linen Thread Co., Inc., 418 Grand St., Paterson 1, N. J.
Joseph F. Shea, Inc., East Haddam, Conn.
A. M. Starr Net Co., 10 Summit Street, East Hampton, Conn.
Sterling Net & Twine Co., Inc., 164 Belmont Ave., Belleville, N. J.
Western Net Shop, Freeport, Texas.

NET LIFTERS

Crossley Co., 16 West 5th St., Erie, Pa.

OIL—Lubricating

Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.
Socony Mobil Oil Co., Inc., Marine Sales Dept., 26 Broadway, New York 4, N. Y.
Standard Oil Co. of California, Standard Oil Bldg., San Francisco, Calif.

PAINTS

The Federal Paint Co., Inc., 33 Rector St., New York 6, N. Y.
Henderson & Johnson, Inc., Gloucester, Mass.
International Paint Co., Inc., 21 West St., New York, N. Y.
Pettit Paint Co., Belleville, N. J.
Tarr & Wonsan Ltd., Gloucester, Mass.
C. A. Woolsey Paint & Color Co., Inc., 229 East 42nd St., New York 17, N. Y.

PROPELLERS

Columbian Bronze Corp., Freeport, N. Y.
Federal Propellers, Grand Rapids, Mich.
Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.
Hyde Windlass Co., Bath, Maine.
Michigan Wheel Co., Grand Rapids, Mich.

PROPELLER RECONDITIONING

Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.

PROPELLER REPAIRS

Ferguson Propeller and Reconditioning Co., 1132 Clinton St., Hoboken, N. J.

PROPELLER SHAFTS

The American Brass Co., Waterbury 20, Conn.
The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

PUMPS

The Edison Corp., 334 So. Water St., New Bedford, Mass.
Jabco Pump Co., 3031 N. Lincoln St., Burbank, Calif.
Sudbury Laboratory, South Sudbury, Mass.

RADAR

Bendix Aviation Corp., Pacific Div., 475 Fifth Ave., New York 17, N. Y.
Decca Radar Inc., 539 West 25th St., New York 1, N. Y.

Edo Corporation, College Point, L. I. N. Y.
Lavole Laboratories, Inc., Morganville 16, N. J.

Radio Corp. of America, 75 Varick St., New York 13, N. Y.

RADIO TELEPHONES

Applied Electronics Co., Inc., 1246 Folsom St., San Francisco, Calif.

Bludworth Marine, 92 Gold St., New York 38, N. Y.

Hudson American Corp., 25 West 43rd St., New York 18, N. Y.

Radio Corp. of America, 75 Varick St., New York 13, N. Y.

RANGES—Galley

Harry C. Weiskittel Co., Inc., 4901 Pulaski Highway, Baltimore 24, Md.

REDUCTION GEARS

Auto Engine Works, Inc., 333 (A) North Hamline Ave., St. Paul 4, Minn.

Snow-Nabstedt Gear Corp., Welton St., Hamden, Conn.

Twin Disc Clutch Co., 1341 Racine St., Racine, Wis.

The Walter Machine Co., Inc., 84 Cambridge Ave., Jersey City 7, N. J.

Western Gear Corp., P. O. Box 182, Lynwood, Calif.

RUST PREVENTIVES

Sudbury Laboratory, South Sudbury, Mass.

SEAM COMPOUNDS

L. W. Ferdinand & Co., Inc., Mica Lane, Newton Lower Falls 62, Mass.

SHIPBUILDERS

Blount Marine Corp., Warren, Rhode Island.

Diesel Engine Sales Inc., St. Augustine, Fla.

Harvey F. Gamage, So. Bristol, Maine.

Morehead City Shipbuilding Corp., Morehead City, N. C.

Frank L. Sample & Son, Inc., Boothbay Harbor, Me.

SILENCERS

The Maxim Silencer Co., 126 Homestead Ave., Hartford, Conn.

STARTING FLUID

Spray Products Corp., P. O. Box 584, Camden 1, N. J.

STEERING GEAR

The Edison Corp., 334 So. Water St., New Bedford, Mass.

Metal Marine Pilot, 342 Golden Gate Ave., Tacoma, Wash.

STERN BEARINGS

"Goodrich Cutless": Lucian Q. Moffitt, Inc., Akron 8, Ohio.

Byron Jackson Tools, Inc., Box 2493, Terminal Annex, Los Angeles 54, Calif.

TWINE

Brownell & Co., Inc., Moodus, Conn.

V-BELTS

Flexible Steel Lacing Co., 4683 Lexington St., Chicago 44, Ill.

VOLTAGE REGULATORS

Safety Industries, Inc., Box 904, New Haven 4, Conn.

WINCHES

Bodine & Dill (formerly Hettinger Engine Co.), Bridgeton, N. J.

Hancock Marine, 1587 No. Main St., Fall River, Mass.

Hathaway Machinery Co., Inc., New Bedford, Mass.

Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

WIRE ROPE

American Steel & Wire Division, United States Steel, Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio.

John A. Roebbing's Sons Co., Trenton 2, N. J.
Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

FOREIGN BAILINGS

BULBOUS BOW-TRAWLERS have been found to be highly advantageous in tests conducted in England. It has been shown that substantial reductions in ship resistance can be achieved by introduction of a bulbous bow in the larger trawlers. Reductions in pitching amplitude of about 10% in heavy pitching conditions have been recorded in favor of the bulbous bow forms, but the heave remained unaltered.

JAPANESE TUNA PROMOTION in United States will be carried on by Japanese International Tuna Association, which recently voted to spend equivalent of \$417,000 during this Japanese fiscal year to increase canned tuna sales in U. S. Funds will be derived 50 percent from Government sources and 50 percent from industry.

SEINER-LONG LINER-DRAGGER *Sleep Robber*, which is 72 feet in length with a beam of 20 feet, is one of Canada's newest and most modern fishing vessels. Key feature of this multiple-operation vessel is the main winch, which is partly hydraulic and partly mechanical, and operates seines, long lines and dragging gear.

Maximum carrying capacity of the boat is estimated at 150 tons of herring or lesser quantities of salmon, halibut or trawl fish. An intercom P.A. system will reach members of the crew in any part of the vessel.

BRITISH FACTORYSHIP *Fairtry* arrived at her home port early in November from a three-month trip to Grand Banks. This trip—the vessel's tenth—was estimated to consist of 400 tons of fillets, mostly cod, 60 tons of whole fish, 150 tons of fish meal, and about 3,000 gallons of fish oil.

SWEDISH QUALITY COMMITTEE, representing all segments of fishing industry, was established recently. At group's first meeting, handling of catches at sea was discussed, especially with reference to more effective cleaning and sorting. The committee recommended that all big fish should be cut immediately at the throat when brought aboard in order to drain the blood.

New type of fish packing box made of glass fibers and plastic was said to have advantage of repeated use with no disagreeable odor.

LARGER FISHING CRAFT appear to offer best hope for increasing earnings of Atlantic Coast fishermen, the Canadian Fisheries Department reported after a four-year study. It was indicated that longer periods at sea and more versatile use tipped the scale in favor of the larger and more modern boats.

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CLASSIFIED ADVERTISING

Rates: \$1.00 per line, \$5.00 minimum charge. Count 9 words to a line. Closing date, 25th of month. National Fisherman, Goffstown, N. H.

FOR SALE

Cruisers, draggers, auxiliaries—all types and sizes. If you are in the market for anything in that line, please write us—no inquiry too small to merit attention. KNOX MARINE EXCHANGE, INC., CAMDEN, MAINE.

GOVERNMENT SURPLUS EQUIPMENT LIST

Buy surplus direct from Government at tremendous savings. Boats, motors, gear, machinery, power tools, truck, jeep, hundreds others. List \$1.00. Surplus Bulletin, Box 169NAE, East Hartford 8, Conn.

DRAGGER "ANGIE & FLORENCE" FOR SALE

77 ft., 160 hp. Atlas, Loran, sounding machine, direction finder, radiotelephone and spare parts for engine. Fully equipped, now fishing. No reasonable offer refused. Contact A. Kelly, 62 Commercial Wharf, Boston 10, Mass. Telephone LA-3-5377.

DRAGGERS FOR SALE

Two draggers, fully equipped; at present are in good working condition, and are out fishing. Length of boats—94' and 77'. Cooper-Bessemer engines, 355 hp. For further information concerning these two boats, please contact Box 60, NATIONAL FISHERMAN, Goffstown, N. H.

COMMERCIAL FISHING AND WORK BOATS

Many sizes and types, including Monterey purse seiners, tugs, barges, salmon and albacore trollers, ranging from \$1,000 upward; fishing gear, such as salmon power gurdies, stainless steel tuna hooks, Wood Freeman automatic pilots; trolling wire; Donald Woodward, Licensed Broker and Wholesale Marine Distributor, Moss Landing, Calif. Telephone Castroville NEWton 3-2620. (Closed Sundays).

BOAT FOR SALE

43' dragger, 13.5' wide, 5.6' draft, 165 hp. Diesel, 3:1 reduction gear. Radio and depth sounder. Fully equipped. Excellent condition. Built 1947. Asking \$13,000. Tel. Sea Isle City, New Jersey, 3-7471.

OIL-BURNING RANGE FOR SALE

Oil-burning range with oven, manufactured by National Iron Works. Over-all stove dimensions: 32" long x 22" wide x 36" high. White porcelain front. Fiberglass insulated and complete with electric blower and oil regulator. Uses No. 2 fuel. Original cost over \$300.00. Our price—\$85.00. Unused surplus. Write for our catalogue containing four million dollars worth of Diesel engines, Diesel generators, electric motors, air compressors, pumps, blowers, etc. Picture on request. Bobby Benjamin, P.O. Box 4842, Normandy Branch, Miami Beach, Fla.

SURPLUS MARINE RADIOS

Manufactured by RCA, known as Model ET 8012, 10 channel, 75 watt, 110 DC input. These radios are used, but have been thoroughly overhauled by our competent radio repair man, and are priced at \$750.00 each. Bobby Benjamin, P.O. Box 4842, Normandy Branch, Miami Beach, Fla.

ENGINES FOR SALE

400 Atlas engine, nearly new; also new Murphy M.E. 90, reasonable. Gorton, 75 Central St., Boston 9, Mass.

G. M. DIESEL MARINE ENGINES

Completely Rebuilt and Guaranteed

"6-71" with 1½ to 1 Twin Disc—\$2500. "4-71" with new 1½ to 1 Borg Warner—\$1975. 2 to 1 or 3 to 1 slightly higher.

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Large stock of engines and parts
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ELDREDGE-McINNIS, INC.

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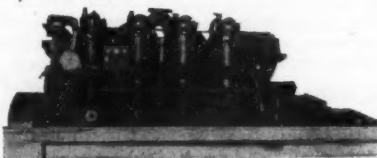
MARINE ENGINEERS

Specializing in Fishing Vessel Design

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Walter J. McInnis

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UNUSED DIESEL ENGINE

Kahlenberg diesel engine—120 HP—10" bore—10½" stroke—4 cyl.—2 cycle. Direct reversible, with reverse and clutch. Has air starting. Engine is a complete installation consisting of 3-blade propeller, aux. air compressor, Kahlenberg air horn, air tanks, muffler, pilot house control, motor generator set, tools, spares.

THE BOSTON METALS COMPANY

313 E. Baltimore St., Baltimore 2, Md.

CUrtis 7-5050

STARTERS AND ENGINES FOR SALE

Starters—surplus new 12-volt, RH, heavy duty. Fit G.M., Buda, Superior, Hercules Diesels, \$20 each, or \$15 each, 10 or more. G.M. 4 and 6-71 Diesels. Fairbanks-Morse 36A with 2:1, 6 cyl., 4¼" x 7", very good condition—\$800. Superior 4 cyl., MDB, 5" x 7", very good condition—\$800. Hercules DWXDS, 150 hp., 2:1, rebuilt—\$1300. Chryslers, Chris-Crafts, rebuilds. Helwege Marine Engine Co., 741 S. Ocean Ave., Freeport, N. Y. Telephone FR. 8-0583.

DRAGGER FOR SALE

40' x 12' x 5', 165 hp. GM Diesel, telephone, new gear and extras. Boat in A-1 shape, can carry 20,000 lbs. of fish. Now working. Call or write N. Schmidt, 462 76th St., Brooklyn 9, New York. Telephone TE 6-4298.

74' DRAGGER "MICHAEL G" FOR SALE

Fully equipped with 6-110 GM Diesel engine, 275 hp., depth recorder, ship-to-shore telephone, direction finder, and a loran. Will consider reasonable offer. For information phone MY 6-8684 between 4 and 6 PM, or write Alphonso Graffeo, 43 Ashland St., Medford, Mass.

BUSINESS FOR SALE

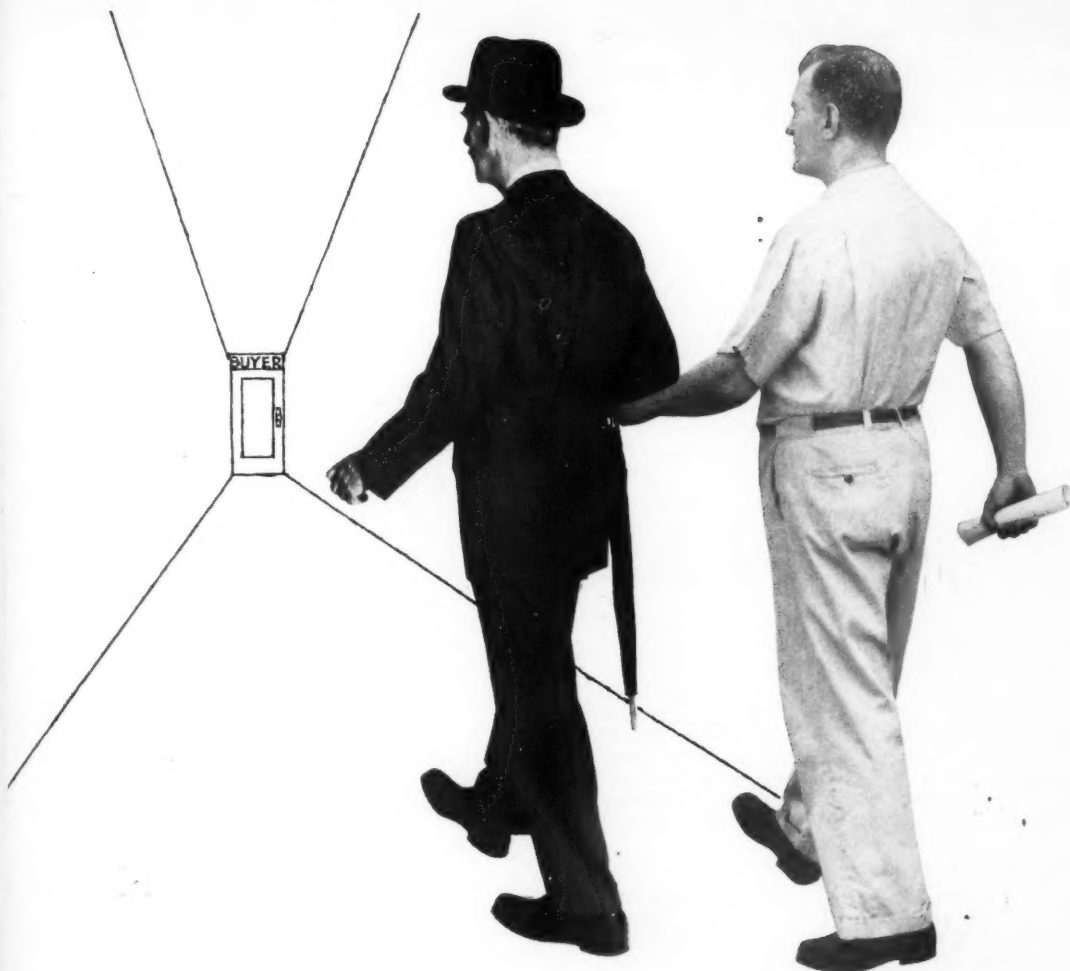
Shrimp—fish business. Two Diesel powered boats, 60 ft. and 50 ft., fully equipped, radio, depth sounder, A-1 condition. Now fishing. Fish house, property. Reason for selling, for further information write: A. D. Smirch, P. O. Box 95, Mayport, Florida.

WESTERBEKE FISHING GEAR CO., INC.

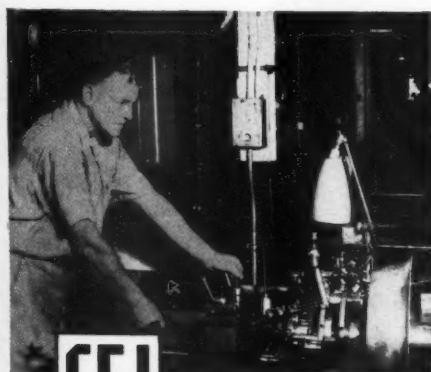
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Wire and Manila ropes*

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CF&I



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